

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.05.95
Test oil : ISO 4113

Combination No. : 0 402 648 799

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0 412 628 885

Governor
Governor design. : RQ300/1050PA1030-28
Governor no. : 0 421 801 778

Cust. part No. : 0260744102

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

A01

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
 Tolerance mm : + 0.30

Del. quantity
 cm³/1000 strokes : 13.0

Tolerance
 cm³/1000 strokes : + 3.0

Check tolerance
 cm³/1000S. : + 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.94
 Tolerance mm : + 0.10

Rated speed rpm : 1104
 guide sleeve
 travel mm : 6.84
 Tolerance mm : + 0.10

Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.50
 Tolerance mm : + 0.10

Rated speed rpm : 732
 guide sleeve
 travel mm : 6.13
 Tolerance mm : + 0.10

Rated speed rpm : 426
 guide sleeve
 travel mm : 4.29
 Tolerance mm : + 0.10

A02

Rated speed rpm : 540
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

Rated speed rpm : 828
 guide sleeve
 travel mm : 6.38
 Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200

Del. quantity
 cm³/1000 strokes : 239.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 99.0
 tolerance degree : + 4.0

rack travel mm : 13.30
 Rated speed rpm : 1098
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : + 0.75

Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 14.30
Tolerance mm : ± 0.10

Rated speed rpm : 850
rack travel mm : 14.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.35
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 12.55
Tolerance mm : ± 0.20

Pressure hPa : 450
rack travel mm : 13.85
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 217.0
Tolerance

cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance

cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 928S

Injection pump
Pump designation : PE8P120A320LS7847...
EP type number : 0 412 628 879

Governor
Governor design. : RQ300/1050PA1030
Governor no. : 0 421 801 640

Cust. part No. : 0230741202

Customer spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

A05

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.55
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.60
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
 Tolerance mm : ± 0.30

Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : ± 3.0

Check tolerance
 cm³/1000S. : ± 6.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
 Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200

Del. quantity
 cm³/1000 strokes : 239.0
 Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 96.0
 tolerance degree : ± 4.0

rack travel mm : 11.90
 Rated speed rpm : 1098
 Tolerance 1/min : ± 8

rack travel mm : 4.00
 Rated speed rpm : 1175

rack travel mm : 0.75
 Tolerance mm : ± 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 420
 Tolerance 1/min : ± 20

Rated speed rpm : 200
 CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 13.60
 Tolerance mm : ± 0.05

Rated speed rpm : 1050
 rack travel mm : 12.90
 Tolerance mm : ± 0.10

Rated speed rpm : 950
 rack travel mm : 13.05
 Tolerance mm : ± 0.10

Rated speed rpm : 775
 rack travel mm : 13.55
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.60
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : \pm 0.15

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.70
Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 929S

Injection pump
Pump designation : PE8P12DA320LS7847-2
EP type number :

Governor
Governor design. : RQV300...950PA1033
: -12
Governor no. :

Cust. part No. : 0230741402

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05
test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : + 4.0

 Spread
 Tolerance
 cm³/1000 strokes : 6.0

 Check tolerance
 cm³/1000S. : 9.0

 Rated speed rpm : 300

 Rack travel in mm : 5.50
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.49
 Tolerance mm : + 0.20

 Rated speed rpm : 1009
 guide sleeve
 travel mm : 8.52
 Tolerance mm : + 0.15

 Rated speed rpm : 589
 guide sleeve
 travel mm : 4.97
 Tolerance mm : + 0.25

 Rated speed rpm : 639
 guide sleeve
 travel mm : 5.51
 Tolerance mm : + 0.25

 Rated speed rpm : 790
 guide sleeve
 travel mm : 6.48
 Tolerance mm : + 0.25

 Rated speed rpm : 1100

guide sleeve
 travel mm : 10.00
 Tolerance mm : + 0.25

 Rated speed rpm : 1210
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1050

 Rack travel in mm : 12.00
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 239.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 121.0
 tolerance degree : + 4.0

 rack travel mm : 12.00
 Rated speed rpm : 998
 Tolerance 1/min : + 8

 rack travel mm : 4.00
 Rated speed rpm : 1075
 Tolerance 1/min : + 15

 rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 66.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.25
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : ± 0.10

Rated speed rpm : 875
rack travel mm : 13.25
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 930S

Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQ300/1050PA1031-2
Governor no. : 0 421 801 645

Cust. part No. : 0230741502

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : + 4.0

rack travel mm : 11.90
Rated speed rpm : 1098
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.60
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 12.90
Tolerance mm : + 0.10

Rated speed rpm : 950
rack travel mm : 13.05
Tolerance mm : + 0.10

Rated speed rpm : 775
rack travel mm : 13.60
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 931S

Injection pump
Pump designation : PE8P12GA32OLS7847-1
EP type number : 0 412 628 879

Governor
Governor design. : RQ300/950PA1032-1
Governor no. : 0 421 801 646

Cust. part No. : 0230741302

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.55
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.60
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1070
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.60
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 875
rack travel mm : 13.25
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.70
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113
Combination No. : 0 402 648 933S
Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQ300/950PA1031-3
Governor no. : 0 421 801 646

Cust. part No. : 0230742702

Customer spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 5.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.60
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 875
rack travel mm : 13.25
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.60
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : +- 0.15

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm3/1000 strokes : 216.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 5.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 107.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : +- 15.0
Check tolerance
cm3/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : +- 0.30
Del. quantity
cm3/1000 strokes : 13.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 940S

Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQ300/950PA1032-4
Governor no. : 0 421 801 661

Cust. part No. : 0240740602

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

A21

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : +- 4.0

rack travel mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : +- 8

rack travel mm : 4.00
Rated speed rpm : 1075
Tolerance 1/min : +- 15

rack travel mm : 0.75
Tolerance mm : +- 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.25
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : +- 0.10

Rated speed rpm : 875
rack travel mm : 13.25
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : +- 0.10

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : +- 0.15

START CUT-OUT

Rated speed rpm : > 220
Check speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 216.0
Tolerance cm³/1000 strokes : +- 2.0
Check tolerance cm³/1000S. : +- 5.0
Speed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 107.0
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 4.0
Speed Tolerance cm³/1000 strokes : 8.0

Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.70
Del. quantity cm³/1000 strokes : 60.0
Tolerance cm³/1000 strokes : +- 10.0
Check tolerance cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : +- 0.30
Del. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : +- 3.0
Check tolerance cm³/1000S. : +- 6.0
Speed Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 941S

Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQV300...950PA1033
: -7
Governor no. : 0 421 814 019

Cust. part No. : 0240742202

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power kW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Speed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0

Speed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.49
 Tolerance mm : + 0.15

Rated speed rpm : 1009
 guide sleeve
 travel mm : 8.52
 Tolerance mm : + 0.15

Rated speed rpm : 589
 guide sleeve
 travel mm : 4.97
 Tolerance mm : + 0.25

Rated speed rpm : 639
 guide sleeve
 travel mm : 5.51
 Tolerance mm : + 0.25

Rated speed rpm : 790
 guide sleeve
 travel mm : 6.48
 Tolerance mm : + 0.25

Rated speed rpm : 1100
 guide sleeve
 travel mm : 10.00
 Tolerance mm : + 0.25

Rated speed rpm : 1210
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1050
 Rack travel in mm : 12.00
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 226.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

Speed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 121.0
 tolerance degree : + 4.0

rack travel mm : 12.00
 Rated speed rpm : 998
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1075
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 66.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.25
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : ± 0.10

Rated speed rpm : 875
rack travel mm : 13.25
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : ± 0.10

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 942S

Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQ300/950PA1031-6
Governor no. : 0 421 801 662

Cust. part No. : 0240742302

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 110
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : ± 4.0

rack travel mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1075
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.25
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : ± 0.10

Rated speed rpm : 875
rack travel mm : 13.25
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 945S

Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQ300/1050PA1030-6
Governor no. : 0 421 801 666

Cust. part No. : 0230747802

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

B03

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8-7-2-6-3
 : -5-4-1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : + 4.0

 Spread
 Tolerance
 cm³/1000 strokes : 6.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.50
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 226.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : + 4.0
 rack travel mm : 11.90
 Rated speed rpm : 1098
 Tolerance 1/min : + 8
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : + 15
 rack travel mm : 0.70
 Tolerance mm : + 0.70
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 420
 Tolerance 1/min : + 20
 Rated speed rpm : 200
 CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 13.25
 Tolerance mm : + 0.05
 Rated speed rpm : 1050
 rack travel mm : 12.90
 Tolerance mm : + 0.10
 Rated speed rpm : 950
 rack travel mm : 13.05
 Tolerance mm : + 0.10
 Rated speed rpm : 800
 rack travel mm : 13.25
 Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.70
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 946S

Injection pump
Pump designation : PE8P120A320LS7847
EP type number : 0 412 628 863

Governor
Governor design. : RQ300/1050PA1031-7
Governor no. : 0 421 801 667

Cust. part No. : 0230747902

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8-7-2-6-3
 : -5-4-1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 11.90
Rated speed rpm : 1098
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1190
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 70.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.10

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.25
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 12.90
Tolerance mm : + 0.10

Rated speed rpm : 950
rack travel mm : 13.05
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 13.25
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 12.15
Tolerance mm : ± 0.10

Pressure hPa : 300
rack travel mm : 11.45
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0

B08

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 285.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 947A

Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0 412 628 869

Governor
Governor design. : RQ300/950PA1032-12
Governor no. : 0 421 801 741

Cust. part No. : 0230749602

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

B09

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure

hPa : 1000

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1090
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : + 30

Rated speed rpm : 200

CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00

Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 10.80
Tolerance mm : + 0.15

Pressure hPa : 550
rack travel mm : 13.70
Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : > 220
Check speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 242.0
Tolerance cm³/1000 strokes : + 2.0
Check tolerance cm³/1000s. : + 5.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000s. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + 1.0
Check tolerance cm³/1000s. : + 4.0
Spreed Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000s. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 235.0
Tolerance cm³/1000 strokes : + 15.0
Check tolerance cm³/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + 0.30
Del. quantity cm³/1000 strokes : 19.0
Tolerance cm³/1000 strokes : + 3.0
Check tolerance cm³/1000s. : + 6.0
Spreed Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 947S

Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0 412 628 869

Governor
Governor design. : RQ300/950PA1032-5
Governor no. : 0 421 801 668

Cust. part No. : 0230749602

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8-7-2-6-3
 : -5-4-1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.04
Tolerance mm : + 0.10

Rated speed rpm : 1009
guide sleeve
travel mm : 6.35
Tolerance mm : + 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 410
guide sleeve
travel mm : 4.66
Tolerance mm : + 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1170

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1090
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.10
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 430
 Tolerance 1/min : + 30

Rated speed rpm : 200

CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 15.00
 Tolerance mm : + 0.05

Rated speed rpm : 950
 rack travel mm : 15.00
 Tolerance mm : + 0.05

**ANEROID/ALTITUDE
 COMPENSATOR TEST**

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 15.00
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 9.10
 Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 250
 rack travel mm : 10.80
 Tolerance mm : + 0.15

Pressure hPa : 550
 rack travel mm : 13.70
 Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : > 220
 Check speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 950
 Del. quantity
 cm³/1000 strokes : 242.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 135.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
 Rated speed rpm : 998
 Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 235.0
 Tolerance
 cm³/1000 strokes : + 20.0
 Check tolerance
 cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300

rack travel mm : 6.10
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.12.94
Test oil : ISO 4113
Combination No. : 0 402 648 955A
Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0 412 628 869
Governor
Governor design. : RQ300/950PA1031-9
Governor no. : 0 421 801 675

Cust. part No. : 0240740502

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 1.0
Overflow quantity
min. l/h : 75
Tolerance l/h : ± 10.0
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 20.50
Tolerance mm : ± 0.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550
Rack travel in mm : 15.00
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.16
Tolerance mm : + 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.36
Tolerance mm : + 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 399
guide sleeve
travel mm : 4.48
Tolerance mm : + 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1170
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : + 4.0

rack travel mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : ± 0.15

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 241.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300

rack travel mm : 5.20
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 980

Injection pump
Pump designation : PE8P120A320LS7839
: -10

EP type number : 0 412 628 855

Governor
Governor design. : RQV300...950PA797
: -39

Governer no. : 0 421 814 115

Cust. part No. : 0250749102

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

B20

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 289.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.20
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes	: 19.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.29
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1010
guide sleeve	
travel mm	: 8.56
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 567
guide sleeve	
travel mm	: 4.66
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 617
guide sleeve	
travel mm	: 5.23
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 780
guide sleeve	
travel mm	: 6.31

Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1092
guide sleeve	
travel mm	: 10.00
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1030
<hr/>	
Rack travel in mm	: 14.20
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 289.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 121.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 14.20
Rated speed rpm	: 995
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1095
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.75
Tolerance mm	: + 0.75
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 82.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm min. : > 8.50

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : + 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : + 0.20

START CUT-OUT

B22

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20

Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 981

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0 412 628 855

Governor
Governor design. : RQ300/950PA971-10
Governor no. : 0 421 801 754

Cust. part No. : 0250749002

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 289.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.20
Tolerance mm	: ± 0.30
Del. quantity	
cm ³ /1000 strokes	: 19.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 2.25
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 6.33
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 450
guide sleeve	
travel mm	: 4.72
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 580
guide sleeve	
travel mm	: 6.00

Tolerance mm	: ± 0.10
Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 289.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 102.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 14.20
Rated speed rpm	: 998
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1105
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.75
Tolerance mm	: ± 0.75
Rated speed rpm	: 1250

LOW IDLE

control lever	
position degree	: 76.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 425
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : ± 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 271.0
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 6.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 136.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 4.0
Speed Spread Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 998
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 255.0
Tolerance cm³/1000 strokes : ± 20.0
Check tolerance cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 983

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0 412 628 855

Governor
Governor design. : RQ300/950PA993-9
Governor no. : 0 421 801 755

Cust. part No. : 0250749202

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.14
Tolerance mm : +- 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.34
Tolerance mm : +- 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : +- 0.10

Rated speed rpm : 399
guide sleeve
travel mm : 4.46
Tolerance mm : +- 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00

C01

Tolerance mm : +- 0.10

Rated speed rpm : 1170

guide sleeve

travel mm : 11.50

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00

Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure

hPa : 1200

Del. quantity

cm³/1000 strokes : 289.0

Tolerance

cm³/1000 strokes : +- 1.0

Check tolerance

cm³/1000S. : +- 4.0

Spreed

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : +- 4.0

rack travel mm : 14.20
Rated speed rpm : 998
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : +- 15

rack travel mm : 0.75
Tolerance mm : +- 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 71.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 5.70

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : ± 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 998
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 984

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0 412 628 855

Governor
Governor design. : RQ300/1050PA972-12
Governor no. : 0 421 801 759

Cust. part No. : 0250749302

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

C04

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.94
Tolerance mm : +- 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.34
Tolerance mm : +- 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : +- 0.10

Rated speed rpm : 414
guide sleeve
travel mm : 4.51
Tolerance mm : +- 0.10

Rated speed rpm : 570
guide sleeve
travel mm : 6.00

C05

Tolerance mm : +- 0.10

Rated speed rpm : 1280

guide sleeve

travel mm : 11.50

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00

Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure

hPa : 1200

Del. quantity

cm³/1000 strokes : 289.0

Tolerance

cm³/1000 strokes : +- 1.0

Check tolerance

cm³/1000S. : +- 4.0

Spreed

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : +- 4.0

rack travel mm : 14.20
Rated speed rpm : 1098
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : +- 15

rack travel mm : 0.75
Tolerance mm : +- 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + 20

Rated speed rpm : 200
CRT mm min. : > 8.20

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 15.20
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : + 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1098
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113
Combination No. : 0 402 648 985
Injection pump
Pump designation : PE8P120A320LS7839
 : -10
EP type number : 0 412 628 855
Governor
Governor design. : RQ300/1050PA993-10
Governor no. : 0 421 801 760

Cust. part No. : 0250749502

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Tolerance l/h : ± 10.0
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.85
Tolerance mm : + 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.34
Tolerance mm : + 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 271
guide sleeve
travel mm : 1.33
Tolerance mm : + 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00

C09

Tolerance mm : + 0.10

Rated speed rpm : 1280

guide sleeve

travel mm : 11.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00

Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure

hPa : 1200

Del. quantity

cm³/1000 strokes : 289.0

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance

cm³/1000S. : + 4.0

Spreed

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 9.0

RATED SPEED

control lever

position degree : 98.0

tolerance degree : + 4.0

rack travel mm : 14.20

Rated speed rpm : 1098

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1195

Tolerance 1/min : + 15

rack travel mm : 0.75

Tolerance mm : + 0.75

Rated speed rpm : 1350

LOW IDLE

control lever

position degree : 69.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 5.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 15.20
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : + 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1098
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 986

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0 412 628 855

Governor
Governor design. : RQV300...1050PA797
: -40
Governor no. : 0 421 814 118

Cust. part No. : 0250749402

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 105
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

C12

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8-7-2-6-3
: -5-4-1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : ± 0.20

Rated speed rpm : 1108
guide sleeve
travel mm : 8.54
Tolerance mm : ± 0.15

Rated speed rpm : 558
guide sleeve
travel mm : 4.53
Tolerance mm : ± 0.25

Rated speed rpm : 608
guide sleeve
travel mm : 5.03
Tolerance mm : ± 0.25

Rated speed rpm : 820

guide sleeve
travel mm : 6.13
Tolerance mm : ± 0.25

Rated speed rpm : 1183
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1160

Rack travel in mm : 13.80
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 289.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : ± 4.0

rack travel mm : 14.20
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 83.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.20

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 15.20
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : ± 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.05.95
Test oil : ISO 4113

Combination No. : 0 402 648 992

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0 412 628 885

Governor
Governor design. : RQV300...1050PA1033
: -21
Governor no. : 0 421 814 145

Cust. part No. : 0250747502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 170
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : ± 0.20

Rated speed rpm : 1110
guide sleeve
travel mm : 8.58
Tolerance mm : ± 0.15

Rated speed rpm : 558
guide sleeve
travel mm : 4.53
Tolerance mm : ± 0.25

Rated speed rpm : 608
guide sleeve
travel mm : 5.03
Tolerance mm : ± 0.25

Rated speed rpm : 820

guide sleeve
travel mm : 6.13
Tolerance mm : ± 0.25

Rated speed rpm : 1183
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1140

Rack travel in mm : 13.30
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : ± 4.0

rack travel mm : 13.30
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 66.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.30

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 14.30
Tolerance mm : ± 0.10

Rated speed rpm : 850
rack travel mm : 14.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.35
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 12.55
Tolerance mm : ± 0.20

Pressure hPa : 450
rack travel mm : 13.85
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 217.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000s. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.06.95
Test oil : ISO 4113

Combination No. : 0 402 648 993

Injection pump
Pump designation : PE8P120A320LS7838
: -10
EP type number : 0 412 628 854

Governor
Governor design. : RQ300/950PA971-11
Governor no. : 0 421 801 764

Cust. part No. : 0260740202

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.72
Tolerance mm : ± 0.10

Rated speed rpm : 1005
guide sleeve
travel mm : 6.34
Tolerance mm : ± 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 451
guide sleeve
travel mm : 4.76
Tolerance mm : ± 0.10

Rated speed rpm : 580

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1190
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 254.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 98.0
tolerance degree : ± 4.0

rack travel mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : ± 30

Rated speed rpm : 200

CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 10.95
Tolerance mm : ± 0.15

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : > 240

Check
speed 1/min : > 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000

Rated speed rpm : 950

Del. quantity
cm³/1000 strokes : 242.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 135.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00

Rated speed rpm : 998

Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : ± 20.0

Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 996

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0 412 628 855

Governor
Governor design. : RQV300...950PA1199
: -1
Governor no. : 0 421 814 131

Cust. part No. : 0250749702

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power kW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 75
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

C24

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : ± 0.20

Rated speed rpm : 1009
guide sleeve
travel mm : 8.55
Tolerance mm : ± 0.15

Rated speed rpm : 567
guide sleeve
travel mm : 4.66
Tolerance mm : ± 0.25

Rated speed rpm : 617
guide sleeve
travel mm : 5.23
Tolerance mm : ± 0.25

Rated speed rpm : 780

guide sleeve
travel mm : 6.31
Tolerance mm : ± 0.25

Rated speed rpm : 1092
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

Rated speed rpm : 1190
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1030

Rack travel in mm : 14.20
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 289.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 123.0
tolerance degree : ± 4.0

rack travel mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1090
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 79.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 6.50

Rated speed rpm : 320

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.25
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.95
Tolerance mm : ± 0.20

Pressure hPa : 500
rack travel mm : 11.65
Tolerance mm : ± 0.20

C26

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.05.95
Test oil : ISO 4113

Combination No. : 0 402 676 821

Injection pump
Pump designation : PE6P120A320LS7854
EP type number : 0 412 626 872

Governor
Governor design. : RSV550...1050P0A826
: -9
Governor no. : 0 421 833 459

Cust. part No. : 0250746302

Customer-spec. information

Customer : MB-NFZ
Motor : OM 441 LA
Power KW : 239.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.60
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 224.0

Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0

 Rated speed rpm : 550

 Rack travel in mm : 3.90
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

 Rack travel in mm : 0.50
 Tolerance mm : + 0.20

 governor spring
 pre-tension
 click setting x : 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 224.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed

Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 88.0
 tolerance degree : + 4.0

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 550
 rack travel mm : 3.90
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 565
 Tolerance 1/min : + 20

Rated speed rpm : 450

CRT mm min. : > 8.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.60
 Tolerance mm : + 0.05

Rated speed rpm : 970
 rack travel mm : 13.90
 Tolerance mm : + 0.10

Rated speed rpm : 750
 rack travel mm : 14.20
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 550
rack travel mm : 3.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.06.95
Test oil : ISO 4113

Combination No. : 0 402 678 825

Injection pump
Pump designation : PE8P120A320LS7823-2
EP type number : 0 412 628 883

Governor
Governor design. : RSV450...1050POA541
: -1
Governor no. : 0 421 833 444

Cust. part No. : 0250744202

Customer-spec. information

Customer : MB-NFZ
Motor : OM442LA
Power KW : 362.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance L/h : +- 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : +- 0.30
Check
tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 14.90
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 255.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 450

Rack travel in mm : 4.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 255.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 90.0
tolerance degree : ± 4.0

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 450
rack travel mm : 4.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 475
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1030
rack travel mm : 14.90
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : ± 0.05

Rated speed rpm : 875
rack travel mm : 15.35
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 15.50
Tolerance mm : ± 0.10

Rated speed rpm : 550
rack travel mm : 15.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : -

MEASUREMENT

Pressure hPa : 400
Rated speed rpm : 500
rack travel mm : 0.75
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 1600
rack travel mm : 4.90
Tolerance mm : +- 0.20

Pressure hPa : 700
rack travel mm : 3.55
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 274.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 4.60
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.95
Test oil : ISO 4113

Combination No. : 0 402 744 801

Injection pump
Pump designation : PES4P120A320RS7380
EP type number : 0 412 724 802

Governor
Governor design. : RQV275...1300PA1232K
Governor no. : 0 421 815 469

Cust. part No. : CCEP 5149 66-237

Customer-spec. information

Customer : RVI
Motor : MIDR 04-02-26 B4
Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity
min. l/h : 95
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 325
 Rack travel in mm : -6.60
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 40.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.57
 Tolerance mm : +- 0.25

 Rated speed rpm : 1381
 guide sleeve
 travel mm : 10.37
 Tolerance mm : +- 0.25

 Rated speed rpm : 940
 guide sleeve
 travel mm : 6.87
 Tolerance mm : +- 0.25

 Rated speed rpm : 390
 guide sleeve
 travel mm : 2.39
 Tolerance mm : +- 0.25

 Rated speed rpm : 440
 guide sleeve
 travel mm : 2.90
 Tolerance mm : +- 0.25

 Rated speed rpm : 560
 guide sleeve
 travel mm : 4.01
 Tolerance mm : +- 0.25

 Rated speed rpm : 1650

guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

 Rack travel in mm : 11.10
 Tolerance mm : +- 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 236.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 302.0
 tolerance degree : +- 4.0

 rack travel mm : -1.60
 Rated speed rpm : 1352
 Tolerance 1/min : +- 5

 rack travel mm : -8.70
 Rated speed rpm : 1465
 Tolerance 1/min : +- 15

 rack travel mm : -12.20
 Tolerance mm : +- 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 253.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325
rack travel mm : -6.60
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm min. : < -4.60

Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1200

Rated speed rpm : 700
rack travel mm : -1.15
Tolerance mm : + 0.10

Rated speed rpm : 1300
rack travel mm : -0.50
Tolerance mm : + 0.25

Rated speed rpm : 350
rack travel mm : -2.90
Tolerance mm : + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.20
Tolerance mm : + 0.20

Rated speed rpm : 1200

Pressure hPa : 320
rack travel mm : -3.60
Tolerance mm : + 0.20

Pressure hPa : 520
rack travel mm : -2.50
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 275
Check
speed 1/min : < 285

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 237.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : + 6.0
Check tolerance
cm³/1000S. : + 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.60
Rated speed rpm : 1352
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 325

rack travel mm : -6.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113
Combination No. : 0 402 746 602
Injection pump
Pump designation : PES6P120A320RS7359
: -1
EP type number : 0 412 726 949
Governor
Governor design. : RQ275/1050PA1217-1
Governor no. : 0 421 801 798
Cust. part No. : CCEP 5152 66-229

Customer-spec. information

Customer : RVI
Motor : MIDR062045 R41
Power KW : 221.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2 417 413 078
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 4.75
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 20.25
Tolerance mm : + 0.75
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 281.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : -7.10
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 25.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.19
 Tolerance mm : +- 0.20

 Rated speed rpm : 1122
 guide sleeve
 travel mm : 6.36
 Tolerance mm : +- 0.15

 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.10

 Rated speed rpm : 408
 guide sleeve
 travel mm : 5.26
 Tolerance mm : +- 0.10

 Rated speed rpm : 480
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.10

 Rated speed rpm : 1330
 guide sleeve
 travel mm : 11.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1177
 Rack travel in mm : 12.30
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 281.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 274.0
 tolerance degree : +- 4.0

 rack travel mm : -1.00
 Rated speed rpm : 1115
 Tolerance 1/min : +- 5

 rack travel mm : -9.30
 Rated speed rpm : 1235
 Tolerance 1/min : +- 15

 rack travel mm : -12.80
 Tolerance mm : +- 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 255.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : -7.10
 Tolerance mm : +- 0.10

rack travel mm : -11.30
Rated speed rpm : 395
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > -4.40

TORQUE CONTROL

Rated speed rpm : 600
Tolerance mm : + 0.05

Rated speed rpm : 1050
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -2.15
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -1.55
Tolerance mm : + 0.15

Pressure hPa : 400
rack travel mm : -0.60
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 286.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1115
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -7.10
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 402 746 650

Injection pump
Pump designation : PES6P120A320RS7344
EP type number : 0 412 726 914

Governor
Governor design. : RQ275/1050PA999-6
Governor no. : 0 421 801 785

Cust. part No. : CCEP 5151 66-230

Customer-spec. information

Customer : RVI
Motor : MIDR 062045 M41
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity
min. L/h : 145
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.50
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 291.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
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Rated speed rpm :	275
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Rack travel in mm :	-7.20
Tolerance mm :	+ 0.20
Del. quantity	
cm ³ /1000 strokes :	35.0
Tolerance	
cm ³ /1000 strokes :	+ 2.0
Check tolerance	
cm ³ /1000S.	: + 5.0
Spread	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	275
guide sleeve	
travel mm :	0.80
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1132
guide sleeve	
travel mm :	6.37
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1050
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	416
guide sleeve	
travel mm :	3.44
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	560
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1350
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	600
Rack travel in mm :	20.00
Tolerance mm :	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	600
Aneroid pressure	
hPa :	1000
Del. quantity	
cm ³ /1000 strokes :	291.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree :	275.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	-1.00
Rated speed rpm :	1125
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	-7.70
Rated speed rpm :	1230
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	-11.25
Tolerance mm :	+ 0.50
Rated speed rpm :	1350

LOW IDLE

control lever	
position degree :	250.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	275
rack travel mm :	-7.20
Tolerance mm :	+ 0.10

rack travel mm : -9.70
Rated speed rpm : 365
Tolerance 1/min : + 20

Rated speed rpm : 200
CRT mm min. : < -6.00

TORQUE CONTROL

Rated speed rpm : 600
Rated speed rpm : 1050
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.75
Tolerance mm : + 0.30

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : -2.75
Tolerance mm : + 0.15

Pressure hPa : 560
rack travel mm : -1.25
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 284.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1125
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.20
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.05.95
Test oil : ISO 4113
Combination No. : 0 402 746 924

Injection pump
Pump designation : PES6P110A32ORS7243
EP type number : 0 412 716 806

Governor
Governor design. : RQV275...1250PA942
: -2K
Governor no. : 0 421 815 288

Cust. part No. : CCEP5124B

Customer-spec. information
Customer : RVI
Motor : MIDR06-06-26 L/2
Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.90
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Del. quantity
cm³/1000 strokes : 141.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.5

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance cm ³ /1000S.	:	7.5
Del. quantity cm ³ /1000 strokes	:	26.0
Tolerance cm ³ /1000 strokes	:	+ 2.0
Check tolerance cm ³ /1000S.	:	+ 5.0
Spreed Tolerance cm ³ /1000 strokes	:	4.5
Check tolerance cm ³ /1000S.	:	7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	1320
guide sleeve travel mm	:	9.80
Tolerance mm	:	+ 0.10

Rated speed rpm	:	1000
guide sleeve travel mm	:	7.20
Tolerance mm	:	+ 0.20

Rated speed rpm	:	275
guide sleeve travel mm	:	1.00
Tolerance mm	:	+ 0.10

Rated speed rpm	:	600
guide sleeve travel mm	:	4.40
Tolerance mm	:	+ 0.20

Rated speed rpm	:	1600
guide sleeve travel mm	:	13.50
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	1450
Rack travel in mm	:	10.10
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1250
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Aneroid pressure hPa	:	1000
Del. quantity cm ³ /1000 strokes	:	141.0
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 3.5
Spreed Tolerance cm ³ /1000 strokes	:	4.0
Check tolerance cm ³ /1000S.	:	7.5

RATED SPEED

control lever position degree	:	276.0
tolerance degree	:	+ 4.0

rack travel mm	:	-1.00
Rated speed rpm	:	1325
Tolerance 1/min	:	+ 5

rack travel mm	:	-9.00
Rated speed rpm	:	1475
Tolerance 1/min	:	+ 15

rack travel mm	:	-12.55
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1600

LOW IDLE

control lever position degree	:	222.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	275
rack travel mm	:	-7.60
Tolerance mm	:	+ 0.10

Rated speed rpm	:	200
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CRT mm min.	:	< -7.00
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Rated speed rpm	:	415
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TORQUE CONTROL

Rated speed rpm	:	1250
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Rated speed rpm	:	650
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rack travel mm : -1.00
Tolerance mm : +- 0.10

Rated speed rpm : 650
rack travel mm : -6.00
Tolerance mm : +- 0.10

Rated speed rpm : 300
rack travel mm : -1.60
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : -2.70
Tolerance mm : +- 0.20

Rated speed rpm : 1250

Pressure hPa : 180
rack travel mm : -2.25
Tolerance mm : +- 0.15

Pressure hPa : 280
rack travel mm : -1.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 225
Check speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 126.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -

D20

Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0
Spreed
Tolerance
cm³/1000 strokes : 10.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.5
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1325
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000s. : 7.5

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.05.95
Test oil : ISO 4113

Combination No. : 0 402 746 928

Injection pump
Pump designation : PES6P110A320RS7243
EP type number : 0 412 716 806

Governor
Governor design. : RQV275...1175PA942
: -3K
Governor no. : 0 421 815 294

Cust. part No. : CCEP5125B

Customer-spec. information

Customer : RVI
Motor : MIDR06-06-26 M/2
Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

D22

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.90
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.05

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1175

Del. quantity
cm3/1000 strokes : 153.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 3.5

Speed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

 Del. quantity
 cm³/1000 strokes : 25.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1250
 guide sleeve
 travel mm : 9.20
 Tolerance mm : ± 0.10

Rated speed rpm : 1000
 guide sleeve
 travel mm : 7.20
 Tolerance mm : ± 0.20

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.00
 Tolerance mm : ± 0.10

Rated speed rpm : 600
 guide sleeve
 travel mm : 4.40
 Tolerance mm : ± 0.20

Rated speed rpm : 1600
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

 Rack travel in mm : 10.10
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175

D23

Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 153.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.5
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 294.0
 tolerance degree : ± 4.0

rack travel mm : -1.00
 Rated speed rpm : 1260
 Tolerance 1/min : ± 5

rack travel mm : -9.45
 Rated speed rpm : 1440
 Tolerance 1/min : ± 15

rack travel mm : -12.95
 Tolerance mm : ± 0.55
 Rated speed rpm : 1550

rack travel mm : 4.00

LOW IDLE

control lever
 position degree : 242.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
 rack travel mm : -8.30
 Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : < -7.70

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 700
rack travel mm : -0.75
Tolerance mm : ± 0.10

Rated speed rpm : 700
rack travel mm : -6.50
Tolerance mm : ± 0.10

Rated speed rpm : 300
rack travel mm : -1.50
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1175
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1175
rack travel mm : -3.40
Tolerance mm : ± 0.10

Rated speed rpm : 1175

Pressure hPa : 240
rack travel mm : 0.10
Tolerance mm : ± 2.70

Pressure hPa : 420
rack travel mm : -1.70
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0
Spread
Tolerance
cm³/1000 strokes : 10.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5
Spread
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1260
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spread

Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.05.95
Test oil : ISO 4113

Combination No. : 0 402 746 952

Injection pump
Pump designation : PES6P120A320RS7294
EP type number : 0 412 726 895

Governor
Governor design. : RQV275...1000PA1001
: -2
Governor no. : 0 421 813 989

Cust. part No. : CCEP-5136 66-214

Customer-spec. information

Customer : RVI
Motor : MIDR 063540 N/3
Power KW : 283.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 19.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °N_W : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : -7.25
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 74.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 290.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 5.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : -8.20
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : +- 2.5

Check tolerance
cm³/1000S. : +- 5.0

Speed

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.66
Tolerance mm : +- 0.10

Rated speed rpm : 1086
guide sleeve
travel mm : 8.46
Tolerance mm : +- 0.10

Rated speed rpm : 773
guide sleeve
travel mm : 6.09
Tolerance mm : +- 0.20

Rated speed rpm : 343
guide sleeve
travel mm : 2.33
Tolerance mm : +- 0.20

Rated speed rpm : 393
guide sleeve
travel mm : 2.99
Tolerance mm : +- 0.20

Rated speed rpm : 490
guide sleeve
travel mm : 3.81
Tolerance mm : +- 0.20

Rated speed rpm : 1370
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1200
Rack travel in mm : 12.20
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 301.0
tolerance degree : + 4.0

rack travel mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : + 5

rack travel mm : -9.30
Rated speed rpm : 1205
Tolerance 1/min : + 15

rack travel mm : -12.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 247.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -8.20
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -6.80

Rated speed rpm : 365

TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1000
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : -4.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.80
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -2.60
Tolerance mm : + 0.20

Pressure hPa : 480
rack travel mm : -0.75
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 167.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.20
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.05.95
Test oil : ISO 4113
Combination No. : 0 402 746 953
Injection pump
Pump designation : PES6P120A320RS7294
EP type number : 0 412 726 895
Governor
Governor design. : RQV275...1000PA1001
: -1
Governor no. : 0 421 813 936
Cust. part No. : CCEP-5135 66-213

Customer-spec. information

Customer : RVI
Motor : MIDR 063540 J/3
Power KW : 306.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2 417 413 071
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089

E02

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 13.50
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 310.0
Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : -8.60
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.29
Tolerance mm : +- 0.10

Rated speed rpm : 1086
guide sleeve
travel mm : 8.46
Tolerance mm : +- 0.10

Rated speed rpm : 773
guide sleeve
travel mm : 6.09
Tolerance mm : +- 0.20

Rated speed rpm : 343
guide sleeve
travel mm : 2.33
Tolerance mm : +- 0.20

Rated speed rpm : 393
guide sleeve
travel mm : 2.99
Tolerance mm : +- 0.20

Rated speed rpm : 490

guide sleeve
travel mm : 3.81
Tolerance mm : +- 0.20

Rated speed rpm : 1370
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1185

Rack travel in mm : 12.60
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 302.0
tolerance degree : +- 4.0

rack travel mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : +- 5

rack travel mm : -9.70
Rated speed rpm : 1210
Tolerance 1/min : +- 15

rack travel mm : -13.25
Tolerance mm : +- 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 246.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -8.60
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm max. : < -7.20

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1000
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : -5.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -5.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -3.80
Tolerance mm : ± 0.20

Pressure hPa : 600
rack travel mm : -0.95
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 225

E04

Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.60
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.05.95
Test oil : ISO 4113

Combination No. : 0 402 946 010

Injection pump
Pump designation : PES6P120A32ORS8028
EP type number : 0 412 926 021

Governor
Governor design. : RQV275...1175PA1101K
Governor no. : 0 421 815 982

Cust. part No. : CCEP 5133 A 66-193

Customer-spec. information

Customer : RVI
Motor : MIDR 060226 M51
Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

E06

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.
mm : 21.00
and maximum rack
travel : 12.30
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1175

Del. quantity
cm³/1000 strokes : 268.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.30
 Tolerance mm : +- 0.20

Del. quantity
 cm³/1000 strokes : 42.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 6.0

Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.01
 Tolerance mm : +- 0.10

Rated speed rpm : 1230
 guide sleeve
 travel mm : 8.95
 Tolerance mm : +- 0.10

Rated speed rpm : 877
 guide sleeve
 travel mm : 6.51
 Tolerance mm : +- 0.20

Rated speed rpm : 389
 guide sleeve
 travel mm : 2.39
 Tolerance mm : +- 0.20

Rated speed rpm : 439
 guide sleeve
 travel mm : 3.01
 Tolerance mm : +- 0.20

Rated speed rpm : 550
 guide sleeve
 travel mm : 3.92
 Tolerance mm : +- 0.20

Rated speed rpm : 1650
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1430

Rack travel in mm : 11.20
 Tolerance mm : +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
 Aneroid pressure
 hPa : 1600
 Del. quantity
 cm³/1000 strokes : 268.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 295.0
 tolerance degree : +- 4.0

rack travel mm : -1.00
 Rated speed rpm : 1250
 Tolerance 1/min : +- 15

rack travel mm : -9.70
 Rated speed rpm : 1420
 Tolerance 1/min : +- 5

rack travel mm : -13.20
 Tolerance mm : +- 0.55
 Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 245.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.30
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -6.40

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 650
rack travel mm : -1.55
Tolerance mm : + 0.10

Rated speed rpm : 350
rack travel mm : -2.80
Tolerance mm : + 0.25

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1175
Pressure hPa : 1600

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -5.40
Tolerance mm : + 0.20

Rated speed rpm : 1175

Pressure hPa : 320
rack travel mm : -4.70
Tolerance mm : + 0.20

Pressure hPa : 560
rack travel mm : -2.95
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1250
Tolerance 1/min : + 15

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.30
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.06.95
Test oil : ISO 4113

Combination No. : 0 402 946 011

Injection pump
Pump designation : PES6P120A32ORS8028
EP type number : 0 412 926 021

Governor
Governor design. : RQV275...1250PA1125K
Governor no. : 0 421 815 981

Cust. part No. : CCEP 5140A 66-205

Customer-spec. information

Customer : RVI
Motor : MIDR 06.02.26L51
Power kW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.
mm : 21.00
and maximum rack
travel : 10.00
Difference ° CS : 2.25

BASIC SETTING

Rated speed rpm : 1250

Del. quantity
cm³/1000 strokes : 170.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : -6.60
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 41.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.00
 Tolerance mm : + 0.15

Rated speed rpm : 1355
 guide sleeve
 travel mm : 10.10
 Tolerance mm : + 0.10

Rated speed rpm : 929
 guide sleeve
 travel mm : 6.80
 Tolerance mm : + 0.20

Rated speed rpm : 390
 guide sleeve
 travel mm : 2.39
 Tolerance mm : + 0.20

Rated speed rpm : 440
 guide sleeve
 travel mm : 3.01
 Tolerance mm : + 0.20

Rated speed rpm : 550
 guide sleeve
 travel mm : 3.92
 Tolerance mm : + 0.20

Rated speed rpm : 1650
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1430
 Rack travel in mm : 10.90
 Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure
 hPa : 1600
 Del. quantity
 cm³/1000 strokes : 170.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 296.0
 tolerance degree : + 4.0

rack travel mm : -1.00
 Rated speed rpm : 1345
 Tolerance 1/min : + 15

rack travel mm : -8.60
 Rated speed rpm : 1470
 Tolerance 1/min : + 5

rack travel mm : -12.10
 Tolerance mm : + 0.55
 Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 244.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : -6.60
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm max. : < -5.20

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650
rack travel mm : -1.10
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : -1.70
Tolerance mm : ± 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1600
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.30
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 200
rack travel mm : -3.70
Tolerance mm : ± 0.20

Pressure hPa : 360
rack travel mm : -2.60
Tolerance mm : ± 0.05

START CUT-OUT

E12

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1345
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : -6.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 41.0
Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.06.95
Test oil : ISO 4113

Combination No. : 0 403 446 310

Injection pump
Pump designation : PES6MW100/320RS1227Z
EP type number : 0 413 406 217

Governor
Governor design. : RQV325...1300MW126
Governor no. : 0 420 083 279

Cust. part No. : 1249952

Customer-spec. information
Customer : DAF
Motor : NS133L
Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 94.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000s. : 6.0
 Rated speed rpm : 325
 Rack travel in mm : 4.50
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 9.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000s. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000s. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.67
 Tolerance mm : + 0.25
 Rated speed rpm : 1334
 guide sleeve
 travel mm : 8.48
 Tolerance mm : + 0.25
 Rated speed rpm : 872
 guide sleeve
 travel mm : 4.97
 Tolerance mm : + 0.25
 Rated speed rpm : 363
 guide sleeve
 travel mm : 2.05
 Tolerance mm : + 0.25
 Rated speed rpm : 413
 guide sleeve
 travel mm : 2.50
 Tolerance mm : + 0.25
 Rated speed rpm : 490
 guide sleeve
 travel mm : 2.93
 Tolerance mm : + 0.25
 Rated speed rpm : 1600
 guide sleeve
 travel mm : 11.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350
 Rack travel in mm : 16.50
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 94.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000s. : 6.0

RATED SPEED

control lever
 position degree : 122.0
 tolerance degree : + 4.0
 rack travel mm : 10.85
 Rated speed rpm : 1332
 Tolerance 1/min : + 8
 rack travel mm : 4.00
 Rated speed rpm : 1455
 Tolerance 1/min : + 15
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : 4.50

Tolerance mm : + 0.10
Rated speed rpm : 225
CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : + 0.05

Rated speed rpm : 1300
rack travel mm : 11.85
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : 290
Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : + 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.90
Tolerance mm : + 0.10

Pressure hPa : 160
rack travel mm : 10.40
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 92.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.0
Spreed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 63.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1332
Tolerance 1/min : + 8

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 9.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.06.95
Test oil : ISO 4113
Combination No. : 0 403 446 317
Injection pump
Pump designation : PES6MW100/320RS1214
: -1
EP type number : 0 413 406 224
Governor
Governor design. : RQV275...1250MW115K
Governor no. : 0 420 083 994
Cust. part No. :

Customer-spec. information
Customer : RVI
Motor : MIDR 060226 W
Power KW : 151.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 033
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

E17

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 18.00
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 14.15
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
<hr/>	
Check tolerance	
cm3/1000S.	: 6.0
Rated speed rpm	: 275
Rack travel in mm	: -8.10
Tolerance mm	: + 0.20
Del. quantity	
cm3/1000 strokes	: 21.0
Tolerance	
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000S.	: + 4.5
Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 5.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 1.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1344
guide sleeve	
travel mm	: 9.99
Tolerance mm	: + 0.25
Rated speed rpm	: 924
guide sleeve	
travel mm	: 6.77
Tolerance mm	: + 0.25
Rated speed rpm	: 390
guide sleeve	
travel mm	: 2.39
Tolerance mm	: + 0.25
Rated speed rpm	: 440
guide sleeve	
travel mm	: 3.01
Tolerance mm	: + 0.25
Rated speed rpm	: 550
guide sleeve	
travel mm	: 3.92
Tolerance mm	: + 0.25

Rated speed rpm	: 1650
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1450
Rack travel in mm	: 11.00
Tolerance mm	: + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm3/1000 strokes	: 118.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 3.0
Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 6.0

RATED SPEED

control lever	
position degree	: 294.0
tolerance degree	: + 4.0
rack travel mm	: -1.00
Rated speed rpm	: 1305
Tolerance 1/min	: + 15
rack travel mm	: -10.10
Rated speed rpm	: 1465
Tolerance 1/min	: + 5
rack travel mm	: -13.60
Tolerance mm	: + 0.50
Rated speed rpm	: 1600

LOW IDLE

control lever	
position degree	: 244.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -8.10
Tolerance mm : +- 0.10

Rated speed rpm : 200
CRT mm min. : > -7.50

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 14.15
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : -0.80
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : -5.50
Tolerance mm : +- 0.10

Rated speed rpm : 350
rack travel mm : -1.60
Tolerance mm : +- 0.40

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1000
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : -3.00
Tolerance mm : +- 0.20

Rated speed rpm : 1250
Pressure hPa : 200
rack travel mm : -2.35
Tolerance mm : +- 0.15

Pressure hPa : 300
rack travel mm : -1.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 230
Check speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 700
Del. quantity cm³/1000 strokes : 116.0
Tolerance cm³/1000 strokes : +- 1.5
Check tolerance cm³/1000S. : +- 4.0
Speed Tolerance cm³/1000 strokes : 5.0
Check tolerance cm³/1000S. : 7.0

Aneroid pressure hPa : 1000
Rated speed rpm : 700
Del. quantity cm³/1000 strokes : 60.0
Tolerance cm³/1000 strokes : +- 4.0
Check tolerance cm³/1000S. : +- 7.5

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 79.0
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1305
Tolerance 1/min : +- 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity cm³/1000 strokes : 95.0

Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -8.10
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.06.95
Test oil : ISO 4113

Combination No. : 0 403 446 318

Injection pump
Pump designation : PES6MW100/320RS1214
: -1
EP type number : 0 413 406 224

Governor
Governor design. : RQV275...1250MW115
: -1K
Governor no. : 0 420 083 992

Cust. part No. :

Customer-spec. information

Customer : RVI
Motor : MIDR 060226 V
Power kW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 18.00
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 112.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 275

Rack travel in mm : -7.50
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.00
Tolerance mm : + 0.25

Rated speed rpm : 1314
guide sleeve
travel mm : 9.71
Tolerance mm : + 0.25

Rated speed rpm : 912
guide sleeve
travel mm : 6.70
Tolerance mm : + 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 2.39
Tolerance mm : + 0.25

Rated speed rpm : 440
guide sleeve
travel mm : 2.90
Tolerance mm : + 0.25

Rated speed rpm : 560

guide sleeve
travel mm : 4.01
Tolerance mm : + 0.25

Rated speed rpm : 1650
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 11.00
Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 112.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 292.0
tolerance degree : + 4.0

rack travel mm : -1.00
Rated speed rpm : 1300
Tolerance 1/min : + 15

rack travel mm : -9.10
Rated speed rpm : 1455
Tolerance 1/min : + 5

rack travel mm : -12.60
Tolerance mm : + 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 242.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : < -6.90

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.15
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : -0.90
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : -4.50
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : -1.60
Tolerance mm : ± 0.40

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1000
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : -1.90
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 120
rack travel mm : -1.40
Tolerance mm : ± 0.15

Pressure hPa : 240
rack travel mm : -0.50

Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 230
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 109.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000s. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000s. : ± 7.5

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1300
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.06.95
Test oil : ISO 4113

Combination No. : 0 403 476 123

Injection pump
Pump designation : PES6MW100/32ORS1227Z
EP type number : 0 413 406 217

Governor
Governor design. : RSV325...1300MWOA350
Governor no. : 0 420 085 200

Cust. part No. : 1249935

Customer-spec. information

Customer : DAF
Motor : NS133L
Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity cm3/1000 strokes : 94.5

Tolerance cm3/1000 strokes : ± 1.0

Check tolerance cm3/1000s. : ± 3.0

Speed Tolerance cm3/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Rated speed rpm : 325
 Rack travel in mm : 4.50
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 9.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 94.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 102.0
 tolerance degree : + 4.0

rack travel mm : 10.85
 Rated speed rpm : 1332
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1425
 Tolerance 1/min : + 15

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 1550

rack travel mm : 4.00
 Rated speed rpm : 1455

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 4.00

Testing:

Rated speed rpm : 325
 rack travel mm : 4.50
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 485
 Tolerance 1/min : + 35

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 11.85
 Tolerance mm : + 0.05

Rated speed rpm : 1300
 rack travel mm : 11.85
 Tolerance mm : + 0.10

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : 290
Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : \pm 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.90
Tolerance mm : \pm 0.10

Pressure hPa : 160
rack travel mm : 10.40
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 92.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 63.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1332
Tolerance 1/min : \pm 8

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.07.95
 Test oil : ISO 4113
 Combination No. : 0 403 486 110
 Injection pump
 Pump designation : PES6MW100/321RS1192
 : -1
 EP type number : 0 413 406 242
 Governor
 Governor design. : RSV300...1300MWOA802
 : -1
 Governor no. : G 420 085 132
 Cust. part No. : 3-7493

Customer-spec. information
 Customer : MAN
 Motor : D0826LE40
 Power KW : 199.0

TEST BENCH REQUIREMENTS

Test oil inlet
 temp. °C : 40
 Tolerance °C : + 2.0
 Overflow valve : 1 417 413 047
 Inlet press. bar : 1.5
 Test nozzle holde
 assembly : 0 681 343 009
 Opening pressure
 bar : 173.5
 Tolerance bar : + 1.5
 Test lines : 1 680 750 008
 Outside diameter : 6.0

x inside diameter : 2.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
 Tolerance bar : + 1.0
 Prestroke mm : 3.55
 Tolerance mm : + 0.05
 test only : + 0.10
 Rack travel in mm : 10.50
 Tolerance mm : + 1.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : + 0.50
 Check
 tolerance °NW : + 0.75
 Start of delivery mark
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300
 Rack travel in mm : 13.05
 Tolerance mm : + 0.05
 Del. quantity
 cm³/1000 strokes : 145.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 4.80
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : ± 0.35
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 145.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 118.0
 tolerance degree : ± 4.0
 rack travel mm : 12.00
 Rated speed rpm : 1355
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1475
 Tolerance 1/min : ± 15
 rack travel mm : 1.00
 Tolerance mm : ± 0.70
 Rated speed rpm : 1650

LOW IDLE

control lever
 position degree : 83.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.80
 Tolerance mm : ± 0.10
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1300
 rack travel mm : 13.05
 Tolerance mm : ± 0.05
 Rated speed rpm : 800
 rack travel mm : 13.05
 Tolerance mm : ± 0.10
 Rated speed rpm : 500
 rack travel mm : 13.05
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -

Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 147.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1355
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed

F02

Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
 Test oil : ISO 4113
 Combination No. : 0 401 840 777
 Injection pump
 Pump designation : PE12P120A520/4LS3840
 : -1
 EP type number : 0 411 820 731
 Governor
 Governor design. : RQV250...900PA1198
 Governor no. : 0 421 814 117
 Cust. part No. :

Customer-spec. information
 Customer : DAEWOO
 Motor : D2842LE
 Power KW : 440.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
 Test oil inlet
 temp. °C : 40
 Tolerance °C : + 2.0
 Overflow valve : 1 417 413 025
 Inlet press. bar : 1.5
 Test nozzle holde
 assembly : 1 688 901 105
 Opening pressure
 bar : 208.5
 Tolerance bar : + 1.5
 Test lines : 1 680 750 089
 Outside diameter : 8.0

F03

x inside diameter : 3.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : + 1.0

Prestroke mm : 4.25
 Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
 Tolerance mm : + 1.50

Firing order : 12- 1- 5- 9- 8
 : - 3- 4- 11- 10
 : - 2- 6- 7

Phasing : 0-45-60-105-120
 : -165-180-225-240
 : -285-300-345

Tolerance : + 0.30
 Check
 tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 650

Rack travel in mm : 11.40
 Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 196.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 6.0

 Check tolerance
 cm³/1000S. : 10.0
 Rated speed rpm : 250
 Rack travel in mm : 6.90
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 25.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1060
 Rack travel in mm : 10.40
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 650
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 196.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

RATED SPEED

F04

control lever
 position degree : 83.0
 tolerance degree : + 4.0

control lever
 position degree : 118.0
 tolerance degree : + 4.0

rack travel mm : 10.40
 Rated speed rpm : 945
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1055
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1150

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : + 4.0

control lever
 position degree : 30.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
 rack travel mm : 6.90
 Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 7.80

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 650
 rack travel mm : 11.40
 Tolerance mm : + 0.05

Rated speed rpm : 900
 rack travel mm : 11.40
 Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 945
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 310.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.07.95
Test oil : ISO 4113

Combination No. : 0 401 846 933

Injection pump
Pump designation : PE6P110A320RS3260
EP type number : 0 411 816 775

Governor
Governor design. : RQ250/1050PA969
Governor no. : 0 421 801 538

Cust. part No. :

Customer-spec. information
Customer : HAEP
Motor : X6130 NA

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

F06

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °Nw : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 131.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.5

<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes :	4.0
<hr/>	
Check tolerance	
cm3/1000S.	: 7.5
Rated speed rpm :	250
Rack travel in mm :	7.80
Tolerance mm :	+ 0.20
Del. quantity	
cm3/1000 strokes :	17.5
Tolerance	
cm3/1000 strokes :	+ 2.5
Check tolerance	
cm3/1000S.	: + 5.0
Spreed	
Tolerance	
cm3/1000 strokes :	4.5
Check tolerance	
cm3/1000S.	: 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	250
guide sleeve	
travel mm :	3.79
Tolerance mm :	+ 0.10
Rated speed rpm :	1100
guide sleeve	
travel mm :	8.47
Tolerance mm :	+ 0.10
Rated speed rpm :	1035
guide sleeve	
travel mm :	8.20
Tolerance mm :	+ 0.10
Rated speed rpm :	796
guide sleeve	
travel mm :	8.05
Tolerance mm :	+ 0.10
Rated speed rpm :	319
guide sleeve	
travel mm :	7.27
Tolerance mm :	+ 0.10
Rated speed rpm :	380
guide sleeve	
travel mm :	8.00
Tolerance mm :	+ 0.10

Rated speed rpm :	1200
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50
Rated speed rpm :	830
guide sleeve	
travel mm :	8.15
Tolerance mm :	+ 0.10

GUIDE SLEEVE POSITION

Rated speed rpm :	500
Rack travel in mm :	13.40
Tolerance mm :	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure	
hPa :	-
Del. quantity	
cm3/1000 strokes :	131.0
Tolerance	
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S.	: + 3.5
Spreed	
Tolerance	
cm3/1000 strokes :	4.0
Check tolerance	
cm3/1000S.	: 7.5

RATED SPEED

tolerance degree :	+ 4.0
rack travel mm :	10.40
Rated speed rpm :	1093
Tolerance 1/min :	+ 8
rack travel mm :	4.00
Rated speed rpm :	1125
Tolerance 1/min :	+ 15
rack travel mm :	0.90
Tolerance mm :	+ 0.90
Rated speed rpm :	1250

LOW IDLE

control lever	
position degree :	77.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 7.80
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 315
Tolerance 1/min : +- 20

Rated speed rpm : 100

CRT mm min. : > 9.30

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 12.15
Tolerance mm : +- 0.05

Rated speed rpm : 1035
rack travel mm : 11.40
Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 132.5
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1093
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 190.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 7.80
Tolerance mm : +- 0.20
Del. quantity
cm3/1000 strokes : 17.5
Tolerance
cm3/1000 strokes : +- 2.5
Check tolerance
cm3/1000S. : +- 5.0
Spreed
Tolerance
cm3/1000 strokes : 4.5
Check tolerance
cm3/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113

Combination No. : 0 401 846 956

Injection pump
Pump designation : PE6P120A32ORS3196
EP type number : 0 411 826 763

Governor
Governor design. : RQV200...1100PA729
: -4
Governor no. : 0 421 813 950

Cust. part No. : 1333954

Customer-spec. information
Customer : SCANIA
Motor : DSC9 10

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 133.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 133.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

F10

RATED SPEED

control lever
position degree : 61.0
tolerance degree : ± 4.0

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 9.50
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 61.0
tolerance degree : ± 4.0

control lever
position degree : 9.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : ± 30

Rated speed rpm : 150

CRT mm min. : > 5.80

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.55
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 10.35
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.50
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.07.95
Test oil : ISO 4113

Combination No. : 0 401 846 972

Injection pump
Pump designation : PE6P110A320RS3302Y
EP type number : 0 411 816 790

Governor
Governor design. : RQ300/1000PA1012-1
Governor no. : 0 421 801 648

Cust. part No. : 1253697

Customer-spec. information
Customer : DAF
Motor : LT 160 L
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 7.50
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : + 2.5

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.08
Tolerance mm : + 0.10

Rated speed rpm : 1060
guide sleeve
travel mm : 6.36
Tolerance mm : + 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 372
guide sleeve
travel mm : 5.03
Tolerance mm : + 0.10

Rated speed rpm : 440
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1210

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 99.0
tolerance degree : + 4.0

rack travel mm : 12.05
Rated speed rpm : 1052
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1120
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 78.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : ± 0.10

rack travel mm : 2.50
Rated speed rpm : 370
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 11.00

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.05
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 13.05
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 13.05
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 11.70
Tolerance mm : ± 0.10

Rated speed rpm : 600

Pressure hPa : 360
rack travel mm : 12.75
Tolerance mm : ± 0.05

Pressure hPa : 270
rack travel mm : 12.10
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 109.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 12.05
Rated speed rpm : 1052
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 350.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 23.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.06.95
Test oil : ISO 4113
Combination No. : 0 401 848 828
Injection pump
Pump designation : PE8P120A520/4LS3850
EP type number : 0 411 828 723
Governor
Governor design. : RQ300/900PA1230
Governor no. : 0 421 801 792

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : D2848LE

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 4.05
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.50
Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 850
Rack travel in mm : 11.90
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 208.0
Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 7.40
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.44
Tolerance mm : + 0.10

Rated speed rpm : 932
guide sleeve
travel mm : 6.37
Tolerance mm : + 0.10

Rated speed rpm : 880
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 433
guide sleeve
travel mm : 4.94
Tolerance mm : + 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1050

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 208.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 32.0
tolerance degree : + 4.0

control lever
position degree : 94.0
tolerance degree : + 4.0

rack travel mm : 10.90
Rated speed rpm : 925
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 970
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 75.0

tolerance degree : + 4.0
control lever
position degree : 13.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.40
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.80

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 11.90
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 211.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 925
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.40
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.06.95
Test oil : ISO 4113

Combination No. : 0 401 849 757

Injection pump
Pump designation : PE10P120A520/4LS3863
EP type number : 0 411 897 711

Governor
Governor design. : RQ300/900PA1230
Governor no. : 0 421 801 792

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : D2840LE

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 10- 9- 4- 1- 8
 : - 7- 6- 3- 5
 : - 2

Phasing : 0-45-72-117-144
 : -189-216-261-288
 : -333

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 10

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 208.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 7.00
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.44
Tolerance mm : ± 0.10

Rated speed rpm : 932
guide sleeve
travel mm : 6.37
Tolerance mm : ± 0.10

Rated speed rpm : 880
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 433
guide sleeve
travel mm : 4.94
Tolerance mm : ± 0.10

Rated speed rpm : 510

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 208.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 32.0
tolerance degree : ± 4.0

control lever
position degree : 94.0
tolerance degree : ± 4.0

rack travel mm : 11.90
Rated speed rpm : 925
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 970
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

control lever
position degree : 12.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.40

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 12.90
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 12.90
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 925
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.07.95
Test oil : ISO 4113

Combination No. : 0 401 849 758

Injection pump
Pump designation : PE10P110A320LS3864
EP type number : 0 411 819 713

Governor
Governor design. : RQ250/1150PA1255
Governor no. : 0 421 801 797

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-10NA

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.00
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 10- 9- 4- 1- 8
: - 7- 6- 3- 5
: - 2

Phasing : 0-45-72-117-144
: -189-216-261-288
: -333

Tolerance : + 0.30
Check
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 10

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.50
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 125.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 9.00
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 40.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.38
Tolerance mm : + 0.20

Rated speed rpm : 1234
guide sleeve
travel mm : 7.50
Tolerance mm : + 0.15

Rated speed rpm : 1150
guide sleeve
travel mm : 7.00
Tolerance mm : + 0.10

Rated speed rpm : 401
guide sleeve
travel mm : 4.83
Tolerance mm : + 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 7.00

Tolerance mm : + 0.10

Rated speed rpm : 1340

guide sleeve

travel mm : 11.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1100

Rack travel in mm : 15.50

Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 125.0

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance

cm³/1000S. : + 4.0

Spread

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 36.0
tolerance degree : + 4.0

control lever
position degree : 98.0
tolerance degree : + 4.0

rack travel mm : 10.50
Rated speed rpm : 1202
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 75.0
tolerance degree : +- 4.0

control lever
position degree : 13.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 7.30
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : +- 20

Rated speed rpm : 150
CRT mm min. : > 8.60

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.50
Tolerance mm : +- 0.05

Rated speed rpm : 650
rack travel mm : 11.50
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm3/1000 strokes : 125.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1202
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

F23

Del. quantity
cm3/1000 strokes : 160.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 9.00
Tolerance mm : +- 0.30
Del. quantity
cm3/1000 strokes : 40.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Speed
Tolerance
cm3/1000 strokes : 7.0
Check tolerance
cm3/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113

Combination No. : 0 401 876 312

Injection pump
Pump designation : PE6P110A32ORS492
EP type number : 0 411 816 161

Governor
Governor design. : RSV200...1100P1A305
: -6
Governor no. : 0 421 833 472

Cust. part No. :

Customer-spec. information
Customer : VOLVO-PENTA
Motor : TD71APP
Power KW : 165.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder assembly : 0 681 343 009

Opening pressure bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.55
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 110.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 200

Rack travel in mm : 5.50
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 110.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 54.0

control lever
position degree : 104.0

rack travel mm : 10.50
Rated speed rpm : 1115

Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1155

Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 67.0

control lever
position degree : 17.0

Testing:

Rated speed rpm : 200
rack travel mm : 5.00

Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 310

Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.55

Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1115
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 200
rack travel mm : 5.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.08.95
Test oil : ISO 4113

Combination No. : 0 401 876 769

Injection pump
Pump designation : PE6P120A32DRS3206-2
EP type number : 0 411 826 784

Governor
Governor design. : RSV250...1300POA374
: -8
Governor no. : 0 421 833 320

Cust. part No. : 864068 P05 v. 04/95

Customer-spec. information

Customer : PENTA
Motor : TAMD71 B
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 078

Inlet press. bar : 1.5

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.10
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 216.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 5.20
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 2.5

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 216.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 114.0
tolerance degree : + 4.0

rack travel mm : 9.10
Rated speed rpm : 1340
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1430
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1530

rack travel mm : 4.00
Rated speed rpm : 1440

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
rack travel mm : 4.70

Testing:

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 440
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.10
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 10.10
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.20
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 780
rack travel mm : 9.80
Tolerance mm : ± 0.10

Pressure hPa : 360
rack travel mm : 7.55
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 136.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.10
Rated speed rpm : 1340
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 250

G01

rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.08.95
Test oil : ISO 4113

Combination No. : 0 401 876 784

Injection pump
Pump designation : PE6P120A32ORS3189
EP type number : 0 411 826 759

Governor
Governor design. : RSV650...750P4A421
: -14
Governor no. : 0 421 833 467

Cust. part No. : 864537 P07 V. 05/95

Customer-spec. information

Customer : PENTA
Motor : TWD 710 G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

G02

Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.00
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 178.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 3.40
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 94.0
tolerance degree : +- 4.0

rack travel mm : 8.00
Rated speed rpm : 752
Tolerance 1/min : +- 3

rack travel mm : 4.00
Rated speed rpm : 778
Tolerance 1/min : +- 7

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 900

LOW IDLE

control lever
position degree : 88.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 650
rack travel mm : 3.40
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 660
Tolerance 1/min : +- 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 9.00
Tolerance mm : +- 0.05

BREAKAWAY

Rack travel in mm : 8.00
Rated speed rpm : 752
Tolerance 1/min : +- 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50

LOW IDLE

Rated speed rpm : 650
rack travel mm : 3.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.08.95
Test oil : ISO 4113
Combination No. : 0 401 876 785

Injection pump
Pump designation : PE6P120A320RS3189
EP type number : 0 411 826 759

Governor
Governor design. : RSV650...750P4A421
: -8
Governor no. : 0 421 833 361

Cust. part No. : 864849 P06 V. 02/95

Customer-spec. information
Customer : PENTA
Motor : TD1210G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 169
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 278.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 3.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 278.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 90.0
tolerance degree : ± 4.0

rack travel mm : 11.40
Rated speed rpm : 750
Tolerance 1/min : ± 3

rack travel mm : 4.00
Rated speed rpm : 788
Tolerance 1/min : ± 7

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 900

LOW IDLE

control lever
position degree : 84.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 650
rack travel mm : 3.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 660
Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.40
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 750
Tolerance 1/min : ± 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50

LOW IDLE

Rated speed rpm : 650
rack travel mm : 3.50
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.08.95
Test oil : ISO 4113

Combination No. : 0 401 876 790

Injection pump
Pump designation : PE6P120A320RS3189
EP type number : 0 411 826 759

Governor
Governor design. : RSV650...750P4A421
: -10
Governor no. : 0 421 833 369

Cust. part No. : 864845 P04 V. 02/95

Customer-spec. information
Customer : PENTA
Motor : TD1010G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.60
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 256.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 3.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : ± 2.5

Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 256.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 90.0
tolerance degree : ± 4.0

rack travel mm : 10.60
Rated speed rpm : 753
Tolerance 1/min : ± 3

rack travel mm : 4.00
Rated speed rpm : 783
Tolerance 1/min : ± 7

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 900

LOW IDLE

control lever
position degree : 83.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 650
rack travel mm : 3.50
Tolerance mm : ± 0.10

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.60
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 10.60
Rated speed rpm : 753
Tolerance 1/min : ± 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50

LOW IDLE

Rated speed rpm : 650
rack travel mm : 3.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.08.95
Test oil : ISO 4113

Combination No. : 0 401 876 801

Injection pump
Pump designation : PE6P120A32ORS3189
EP type number : 0 411 826 759

Governor
Governor design. : RSV250...900P1A421
: -12
Governor no. : 0 421 833 465

Cust. part No. : 866382 P05

Customer spec. information
Customer : PENTA
Motor : TWD 710P

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 8.15
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 155.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 155.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 51.0
 tolerance degree : + 4.0

control lever
 position degree : 101.0
 tolerance degree : + 4.0

rack travel mm : 7.15
 Rated speed rpm : 925
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 960
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1070

LOW IDLE

control lever
 position degree : 78.0
 tolerance degree : + 4.0

control lever
 position degree : 28.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
 rack travel mm : 4.30

Testing:

Rated speed rpm : 250
 rack travel mm : 4.80
 Tolerance mm : + 0.20

rack travel mm : 2.00
 Rated speed rpm : 360
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 8.15
 Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 7.15
 Rated speed rpm : 925
 Tolerance 1/min : + 5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.95
Test oil : ISO 4113
Combination No. : 0 401 876 805
Injection pump
Pump designation : PE6P120A320RS3343
EP type number : 0 411 826 813
Governor
Governor design. : RSV350...1100P1A559
Governor no. : 0 421 833 389

Cust. part No. : 1372022

Customer-spec. information
Customer : SCANIA
Motor : DSC945A

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Vibration damper
(RoBo diaphragm) : 4.2
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance *NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rack travel in mm : 5.20
Tolerance mm : ± 0.20
Del. quantity cm³/1000 strokes : 17.0

Tolerance
 cm³/1000 strokes : + 4.0

 Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 700

 Rack travel in mm : 14.05
 Tolerance mm : + 0.05

 Del. quantity
 cm³/1000 strokes : 216.0

 Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 4.0

 Spread
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 216.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 35.0
 tolerance degree : + 4.0

control lever
 position degree : 85.0
 tolerance degree : + 4.0

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 14.05
 Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 14.05
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : 12.00
 Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 330
 rack travel mm : 12.55
 Tolerance mm : + 0.15

Pressure hPa : 490
 rack travel mm : 13.45
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 174.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.08.95
Test oil : ISO 4113

Combination No. : 0 401 876 808

Injection pump
Pump designation : PE6P120A320RS3355
EP type number : 0 411 826 814

Governor
Governor design. : RSV300...1100P1A604
Governor no. : 0 421 833 485

Cust. part No. : 3825516 P02 v. 5/95

Customer-spec. information
Customer : PENTA
Motor : TD1030ME
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 85
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 9.90
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 156.0

Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 7.0

 Check tolerance
 cm³/1000S. : 11.0

 Rated speed rpm : 300

 Rack travel in mm : 4.70
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 23.0
 Tolerance
 cm³/1000 strokes : + 2.5
 Check tolerance
 cm³/1000S. : + 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

 Rack travel in mm : 0.85
 Tolerance mm : + 0.55

 governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 156.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed

Tolerance
 cm³/1000 strokes : 7.0
 Check tolerance
 cm³/1000S. : 11.0

RATED SPEED

control lever
 position degree : 62.0
 tolerance degree : + 4.0

control lever
 position degree : 112.0
 tolerance degree : + 4.0

rack travel mm : 11.50
 Rated speed rpm : 1135
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1300

rack travel mm : 4.00
 Rated speed rpm : 1195

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : + 4.0

control lever
 position degree : 26.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
 rack travel mm : 4.20

Testing:

Rated speed rpm : 300
 rack travel mm : 4.70
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 380
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.50
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.50
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.55
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 555
rack travel mm : 2.30
Tolerance mm : ± 0.15

Pressure hPa : 140
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 179.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1135
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.70
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.09.95
Test oil : ISO 4113

Combination No. : 0 402 036 760

Injection pump
Pump designation : PES6P120A720/3LS3255
: -4

EP type number : 0 412 026 775

Governor
Governor design. : RQ300/1000PA813-24
Governor no. : 0 421 801 790

Cust. part No. : 51.11103-7388

Customer-spec. information

Customer : MAN
Motor : D 2866 LOH 09/20
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

G20

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.00
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 206.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.30
 Tolerance mm : + 0.20

Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0

Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.38
 Tolerance mm : + 0.10

Rated speed rpm : 1060
 guide sleeve
 travel mm : 7.31
 Tolerance mm : + 0.10

Rated speed rpm : 1000
 guide sleeve
 travel mm : 7.00
 Tolerance mm : + 0.10

Rated speed rpm : 388
 guide sleeve
 travel mm : 5.48
 Tolerance mm : + 0.10

Rated speed rpm : 470
 guide sleeve
 travel mm : 7.00
 Tolerance mm : + 0.10

Rated speed rpm : 1230
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 550
 Rack travel in mm : 15.50
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 206.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 282.0
 tolerance degree : + 4.0

rack travel mm : 12.90
 Rated speed rpm : 1053
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1150
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1260

LOW IDLE

control lever
 position degree : 257.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.80

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.45
Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : 120
rack travel mm : 11.75
Tolerance mm : + 0.05

Pressure hPa : 450
rack travel mm : 13.35
Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 213.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 123.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1053
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.08.95
Test oil : ISO 4113
Combination No. : 0 402 044 700
Injection pump
Pump designation : PES4P110A320RS3350
EP type number : 0 412 014 700
Governor
Governor design. : RQV350...1400PA1221K
Governor no. : 0 421 815 472
Cust. part No. : 16700-D8703 / M
 : -2004

Customer-spec. information

Customer : NMI
Motor : B4.40 EURO II
Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 20.50
Tolerance mm : ± 0.50
Firing order : 4- 2- 1- 3
Phasing : 0-90-180-270
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 15.40
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 350
 Rack travel in mm : 9.50
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 31.0
 Tolerance
 cm³/1000 strokes : +- 2.5
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve
 travel mm : 1.46
 Tolerance mm : +- 0.20
 Rated speed rpm : 1417
 guide sleeve
 travel mm : 9.99
 Tolerance mm : +- 0.15
 Rated speed rpm : 994
 guide sleeve
 travel mm : 6.77
 Tolerance mm : +- 0.25
 Rated speed rpm : 610
 guide sleeve
 travel mm : 3.96
 Tolerance mm : +- 0.25
 Rated speed rpm : 1730
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1515
 Rack travel in mm : 14.50
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 178.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 65.0
 tolerance degree : +- 4.0
 control lever
 position degree : 122.0
 tolerance degree : +- 4.0
 rack travel mm : 14.40
 Rated speed rpm : 1410
 Tolerance 1/min : +- 5
 rack travel mm : 4.00
 Rated speed rpm : 1585
 Tolerance 1/min : +- 15
 rack travel mm : 0.50
 Tolerance mm : +- 0.50
 Rated speed rpm : 1640

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : +- 4.0
 control lever
 position degree : 26.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 9.50
 Tolerance mm : +- 0.10

Rated speed rpm : 250
CRT mm min. : > 10.80
Rated speed rpm : 500

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 15.40
Tolerance mm : ± 0.05

Rated speed rpm : 780
rack travel mm : 13.70
Tolerance mm : ± 0.15

Rated speed rpm : 1000
rack travel mm : 14.30
Tolerance mm : ± 0.20

Rated speed rpm : 1250
rack travel mm : 15.40
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1300
Pressure hPa : 1500
rack travel mm : 15.40
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1300
rack travel mm : 12.75
Tolerance mm : ± 0.10

Rated speed rpm : 1300

Pressure hPa : 940
rack travel mm : 14.45
Tolerance mm : ± 0.10

Pressure hPa : 520
rack travel mm : 13.25
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 270

Check speed 1/min : > 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 780
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 14.40
Rated speed rpm : 1410
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 9.50
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.07.95
Test oil : ISO 4113

Combination No. : 0 402 046 865

Injection pump
Pump designation : PES6P120A320LS3321
: -1
EP type number : 0 412 026 776

Governor
Governor design. : RQ275/950PA1085-1
Governor no. : 0 421 801 761

Cust. part No. : 645 625

Customer-spec. information
Customer : RABA
Motor : SIEHE BEMERKUNG

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 193.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.70
 Tolerance mm : + 0.30

Del. quantity
 cm³/1000 strokes : 24.0

Tolerance
 cm³/1000 strokes : + 3.0

Check tolerance
 cm³/1000S. : + 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 2.85
 Tolerance mm : + 0.10

Rated speed rpm : 1003
 guide sleeve
 travel mm : 6.55
 Tolerance mm : + 0.10

Rated speed rpm : 950
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 369
 guide sleeve
 travel mm : 5.24
 Tolerance mm : + 0.10

Rated speed rpm : 440
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 1170
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 500

Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 193.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 37.0
 tolerance degree : + 4.0

control lever
 position degree : 99.0
 tolerance degree : + 4.0

rack travel mm : 13.60
 Rated speed rpm : 995
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

control lever
position degree : 13.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 355
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 8.30

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.60
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.40
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : 13.10
Tolerance mm : ± 0.15

Pressure hPa : 350

rack travel mm : 13.80
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000s. : ± 24.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000s. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.08.95
Test oil : ISO 4113

Combination No. : 0 402 618 809

Injection pump
Pump designation : PE8P120A500/5RS7387
EP type number : 0 412 628 911

Governor
Governor design. :
Governor no. :

Cust. part No. : 12277648KY0120-17

Customer-spec. information

Customer : MWM
Motor : TBD 616-V16
Power KW : 864.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 180
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 2- 5- 6- 3- 4
: - 7- 8

Phasing : 0-30-45-75-270-300
: -315-345
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 262.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.40
 Tolerance mm : +- 0.10
 Del. quantity
 cm³/1000 strokes : 38.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 262.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 12.60
 Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 16.50
 Tolerance mm : +- 0.50
 Del. quantity
 cm³/1000 strokes : 347.0
 Tolerance
 cm³/1000 strokes : +- 14.0
 Check tolerance
 cm³/1000S. : +- 20.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 6.40
 Tolerance mm : +- 0.10
 Del. quantity
 cm³/1000 strokes : 38.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.08.95
Test oil : ISO 4113
Combination No. : 0 402 640 839
Injection pump
Pump designation : PE12P120A520LS7829
: -1
EP type number : 0 412 620 827
Governor
Governor design. : RQV300...1150PA1039K
Governor no. : 0 421 815 314

Cust. part No. : 3-7227

Customer spec. information
Customer : MAN
Motor : D2842LE402
Power KW : 809.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

H06

Outside diameter : 8.0
x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345
Tolerance : + 0.30
Check
tolerance *NW : + 0.50

Start of delivery blocking

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 338.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.24
Tolerance mm : + 0.25

Rated speed rpm : 1206
guide sleeve
travel mm : 10.43
Tolerance mm : + 0.25

Rated speed rpm : 795
guide sleeve
travel mm : 6.88
Tolerance mm : + 0.25

Rated speed rpm : 329
guide sleeve
travel mm : 2.75
Tolerance mm : + 0.25

Rated speed rpm : 379
guide sleeve
travel mm : 3.53
Tolerance mm : + 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 4.21
Tolerance mm : + 0.25

Rated speed rpm : 1450
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1265

Rack travel in mm : 13.70
Tolerance mm : + 2.00

H07

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 338.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : + 4.0

rack travel mm : 13.80
Rated speed rpm : 1203
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1345
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.80
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 8.30

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.55
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : ± 0.10

Rated speed rpm : 900
rack travel mm : 14.10
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.55
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.00
Tolerance mm : ± 0.10

Rated speed rpm : 1150

Pressure hPa : 850
rack travel mm : 12.55
Tolerance mm : ± 0.15

Pressure hPa : 400
rack travel mm : 10.35
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 240
Check speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 290.0

H08

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 310.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1203
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113
Combination No. : 0 402 646 604
Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0 412 626 924
Governor
Governor design. : RQV350...1050PA795
: -13
Governor no. : 0 421 814 017

Cust. part No. : 1337549

Customer-spec. information
Customer : SCANIA
Motor : DS11 Allvarv

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

H10

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 4.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1280

Rack travel in mm : 12.00
Tolerance mm : ± 1.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 45.0
tolerance degree : ± 4.0

control lever
position degree : 102.0
tolerance degree : ± 4.0

rack travel mm : 12.30
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

control lever
position degree : 15.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 8.00

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.35
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 13.35

Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 440
rack travel mm : 12.05
Tolerance mm : \pm 0.05

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.30

H12

Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.07.95
Test oil : ISO 4113
Combination No. : 0 402 646 627
Injection pump
Pump designation : PE6P120A32ORS7297
: -10
EP type number : 0 412 626 921
Governor
Governor design. : RQV350...1100PA795
: -12
Governor no. : 0 421 813 914
Cust. part No. : 1340653

Customer-spec. information
Customer : SCANIA
Motor : DSC 909

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Vibration
damper
(RoBo diaphragm) : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Overflow quantity
min. L/h : 210
Tolerance L/h : + 20.0
Test nozzle holde
assembly : 1 688 901 104

H13

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance *NW : + 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.90
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1300

Rack travel in mm : 12.00
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 47.0
tolerance degree : +- 4.0

control lever
position degree : 106.0
tolerance degree : +- 4.0

rack travel mm : 12.20
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 68.0
tolerance degree : +- 4.0

control lever
position degree : 11.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.90
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 6.40

Rated speed rpm : 250

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.25
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 470
rack travel mm : 11.95
Tolerance mm : + 0.15

Pressure hPa : 670
rack travel mm : 12.85
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 183.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1145

H15

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.90
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113
Combination No. : 0 402 646 630
Injection pump
Pump designation : PE6P120A720RS7302
 : -10
EP type number : 0 412 626 928
Governor
Governor design. : RQ200/950PA745-6
Governor no. : 0 421 801 702

Cust. part No. : 1354204

Customer-spec. information
Customer : SCANIA
Motor : DS 11 78

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Vibration damper
(RoBo diaphragm) : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holder assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : + 1.5

H16

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 4.45
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 13.00
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : + 0.30
Check tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.35
Tolerance mm : + 0.05
Del. quantity cm³/1000 strokes : 171.0
Tolerance cm³/1000 strokes : + 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm	: 250
<hr/>	
Rack travel in mm	: 4.50
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes	: 16.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.41
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 4.88
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 930
guide sleeve	
travel mm	: 4.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 350
guide sleeve	
travel mm	: 2.88
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 520
guide sleeve	
travel mm	: 4.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1045

guide sleeve	
travel mm	: 5.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1360
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 171.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 45.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 99.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 12.30
Rated speed rpm	: 995
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1125
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 64.0
tolerance degree : + 4.0

control lever
position degree : 10.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 335
Tolerance 1/min : + 20

Rated speed rpm : 150

CRT mm min. : > 5.80

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.35
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 13.35
Tolerance mm : + 0.05

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.35
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.20
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 210

H18

rack travel mm : 11.90
Tolerance mm : + 0.15

Pressure hPa : 400
rack travel mm : 13.05
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 995
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 275.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.50

Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113

Combination No. : 0 402 646 634

Injection pump
Pump designation : PE6P120A72DRS7188
: -10
EP type number : 0 412 626 924

Governor
Governor design. : RQ200...950PA745-5
Governor no. : 0 421 801 695

Cust. part No. : 1356404

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 73

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

H2O

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 182.0

Tolerance
cm³/1000 strokes : + 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 4.70
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 16.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.41
Tolerance mm	: +- 0.20
Rated speed rpm	: 1006
guide sleeve	
travel mm	: 4.90
Tolerance mm	: +- 0.15
Rated speed rpm	: 930
guide sleeve	
travel mm	: 4.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 355
guide sleeve	
travel mm	: 2.97
Tolerance mm	: +- 0.10
Rated speed rpm	: 520
guide sleeve	
travel mm	: 4.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 1045

guide sleeve	
travel mm	: 5.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 1360
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 500
Rack travel in mm	: 20.00
Tolerance mm	: +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 182.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 43.0
tolerance degree	: +- 4.0
control lever	
position degree	: 97.0
tolerance degree	: +- 4.0
rack travel mm	: 10.20
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1125
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1200

LOW IDLE

control lever
position degree : 65.0
tolerance degree : +- 4.0

control lever
position degree : 11.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : +- 30

Rated speed rpm : 150

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 11.25
Tolerance mm : +- 0.05

**ANEROID/ALTITUDE
COMPENSATOR TEST****MEASUREMENT**

Pressure hPa : 210
rack travel mm : 10.60
Tolerance mm : +- 0.15

Pressure hPa : 270
rack travel mm : 11.05
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 179.0

Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 995
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113
Combination No. : 0 402 646 637
Injection pump
Pump designation : PE6P120A720RS7188
: -10Y
EP type number : 0 412 626 927
Governor
Governor design. : RQ200...950PA745-4
Governor no. : 0 421 801 694

Cust. part No. : 1355247

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 38

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Vibration
damper
(RoBo diaphragm) : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 104
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 236.0
Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm	: 250
<hr/>	
Rack travel in mm	: 4.70
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes	: 16.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.41
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 4.88
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 930
guide sleeve	
travel mm	: 4.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 355
guide sleeve	
travel mm	: 2.97
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 520
guide sleeve	
travel mm	: 4.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1045

guide sleeve	
travel mm	: 5.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1360
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 500
<hr/>	
Rack travel in mm	: 20.00
Tolerance mm	: + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 236.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 49.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 103.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 12.20
Rated speed rpm	: 995
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1120
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1200

LOW IDLE

control lever
position degree : 65.0
tolerance degree : ± 4.0

control lever
position degree : 11.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 20

Rated speed rpm : 150

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.25
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : ± 0.20

Pressure hPa : 440

H26

rack travel mm : 12.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 222.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.05.95
Test oil : ISO 4113
Combination No. : 0 402 646 651A
Injection pump
Pump designation : PE6P120A320LS7357
EP type number : 0 412 626 934
Governor
Governor design. : RQV325...975PA1190K
Governor no. : 0 421 815 450

Cust. part No. :

Customer-spec. information
Customer : LIAZ
Motor : siehe Bemerkung

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.20
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 12.00
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 725
Rack travel in mm : 13.20
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1100
Rack travel in mm : 12.20
Tolerance mm : ± 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 725
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 70.0
tolerance degree : ± 4.0

control lever
position degree : 122.0
tolerance degree : ± 4.0

rack travel mm : 12.20
Rated speed rpm : 1075
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 67.0
tolerance degree : ± 4.0

control lever
position degree : 14.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.10
Tolerance mm : ± 0.30

Rated speed rpm : 225

CRT mm min. : > 5.30

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 725
rack travel mm : 13.20
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 13.20
Tolerance mm : ± 0.20

Rated speed rpm : 600
rack travel mm : 12.20
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1500
rack travel mm : 13.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 9.40
Tolerance mm : ± 0.10

Rated speed rpm : 1000

Pressure hPa : 190
rack travel mm : 10.90
Tolerance mm : \pm 0.20

Pressure hPa : 330
rack travel mm : 12.40
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : < 245
Check
speed 1/min : < 265

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1075
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 300.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.08.95
Test oil : ISO 4113

Combination No. : 0 402 646 745

Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQV300...1050PA1241K
Governor no. : 0 421 815 476

Cust. part No. : B0165-6-13

Customer-spec. information

Customer : KHD
Motor : BF6M1015C
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity min. L/h : 105
Tolerance L/h : ± 10.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 350.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 4.90
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.74
Tolerance mm : ± 0.20

Rated speed rpm : 1107
guide sleeve
travel mm : 9.89
Tolerance mm : ± 0.15

Rated speed rpm : 772
guide sleeve
travel mm : 6.82
Tolerance mm : ± 0.25

Rated speed rpm : 440
guide sleeve
travel mm : 3.88
Tolerance mm : ± 0.25

Rated speed rpm : 1380
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1205

Rack travel in mm : 13.40
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1700

Del. quantity
cm³/1000 strokes : 350.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1085
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.90
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 7.10
Rated speed rpm : 355

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 14.40
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 12.30
Tolerance mm : + 0.10

Rated speed rpm : 850
rack travel mm : 13.80
Tolerance mm : + 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 1700
rack travel mm : 14.40
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1050
rack travel mm : 8.70
Tolerance mm : + 0.20

Rated speed rpm : 1050

Pressure hPa : 420
rack travel mm : 9.70
Tolerance mm : + 0.20

Pressure hPa : 830
rack travel mm : 12.40
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1700
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 353.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1085
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.70
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.90
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113

Combination No. : 0 402 646 887

Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0 412 626 924

Governor
Governor design. : RQV200...950PA725-7
Governor no. : 0 421 813 803

Cust. part No. : 1333122

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 23

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper
(RoBo diaphragm) : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity min. L/h : 190
Tolerance L/h : + 20.0

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : ± 4.0

control lever
position degree : 114.0
tolerance degree : ± 4.0

rack travel mm : 12.80
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 64.0
tolerance degree : ± 4.0

control lever
position degree : 10.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 6.00

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.85
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : \pm 0.15

Pressure hPa : 440
rack travel mm : 12.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 237.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 995

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Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113

Combination No. : 0 402 646 938

Injection pump
Pump designation : PE6P120A72ORS7188
 : -100
EP type number : 0 412 626 925

Governor
Governor design. : RQ200/950PA745-3
Governor no. : 0 421 801 579

Cust. part No. : 1334027

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 21

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 4.70
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 16.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.41
Tolerance mm	: +- 0.20
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 4.88
Tolerance mm	: +- 0.15
Rated speed rpm	: 930
guide sleeve	
travel mm	: 4.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 355
guide sleeve	
travel mm	: 2.97
Tolerance mm	: +- 0.10
Rated speed rpm	: 520
guide sleeve	
travel mm	: 4.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 1045

guide sleeve	
travel mm	: 5.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 1360
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 16.50
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 220.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 44.0
tolerance degree	: +- 4.0
control lever	
position degree	: 99.0
tolerance degree	: +- 4.0
rack travel mm	: 11.70
Rated speed rpm	: 995
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1125
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 62.0
tolerance degree : + 4.0

control lever
position degree : 11.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + 20

Rated speed rpm : 150

CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.75
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.75
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : + 0.15

Pressure hPa : 440

rack travel mm : 12.05
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 209.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.08.95
Test oil : ISO 4113

Combination No. : 0 402 648 795

Injection pump
Pump designation : PE8P120A320LS7873
EP type number : 0 412 628 880

Governor
Governor design. : RQV300...1050PA1258K
Governor no. : 0 421 815 490

Cust. part No. : 04223330KY0165-17

Customer-spec. information

Customer : KHD
Motor : BF8M1015/C
Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 8- 7- 2- 6
 : - 5- 4- 3

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 360.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.60
Tolerance mm : + 0.20

Rated speed rpm : 1097
guide sleeve
travel mm : 10.07
Tolerance mm : + 0.15

Rated speed rpm : 796
guide sleeve
travel mm : 6.87
Tolerance mm : + 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 4.02
Tolerance mm : + 0.25

Rated speed rpm : 1340
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1178

Rack travel in mm : 13.20
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 360.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : + 4.0

rack travel mm : 13.20
Rated speed rpm : 1085
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1190
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : > 7.00
Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 14.20
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 12.20
Tolerance mm : + 0.25

Rated speed rpm : 800
rack travel mm : 13.50
Tolerance mm : + 0.25

Rated speed rpm : 450
rack travel mm : 10.80
Tolerance mm : + 0.25

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 1000
rack travel mm : 14.20
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1050
rack travel mm : 9.40
Tolerance mm : + 0.20

Rated speed rpm : 1050

Pressure hPa : 500
rack travel mm : 10.60
Tolerance mm : + 0.10

Pressure hPa : 800
rack travel mm : 13.60
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1085
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.40
Tolerance
cm³/1000 strokes : + 14.0
Check tolerance
cm³/1000S. : + 20.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.95
Test oil : ISO 4113

Combination No. : 0 402 648 929B

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0 412 628 886

Governor
Governor design. : RQV300...950PA1033
 : -12
Governor no. : 0 421 814 093

Cust. part No. : 0230741402

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.55
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.49
Tolerance mm : + 0.25

Rated speed rpm : 1012
guide sleeve
travel mm : 8.56
Tolerance mm : + 0.25

Rated speed rpm : 1600
guide sleeve
travel mm : 24.06
Tolerance mm : + 0.25

Rated speed rpm : 589
guide sleeve
travel mm : 4.97
Tolerance mm : + 0.25

Rated speed rpm : 639
guide sleeve
travel mm : 5.51
Tolerance mm : + 0.25

Rated speed rpm : 790

guide sleeve
travel mm : 6.48
Tolerance mm : + 0.25

Rated speed rpm : 1100
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1045

Rack travel in mm : 13.00
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : + 4.0

rack travel mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1095
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 68.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : ± 0.10

Rated speed rpm : 860
rack travel mm : 14.35
Tolerance mm : ± 0.10

Rated speed rpm : 820
rack travel mm : 14.65
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : ± 0.20

Rated speed rpm : 400

J20

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.30
Tolerance mm : \pm 0.25
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.95
Test oil : ISO 4113
Combination No. : 0 402 648 940B
Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0 412 628 886
Governor
Governor design. : RQ300/950PA1032-8
Governor no. : 0 421 801 723
Cust. part No. : 0240740602

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Tolerance L/h : ± 10.0
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 20.50
Tolerance mm : ± 0.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550
Rack travel in mm : 14.40
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: 5.70
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes	: 13.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.63
Tolerance mm	: + 0.10
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 6.69
Tolerance mm	: + 0.10
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.35
Tolerance mm	: + 0.10
Rated speed rpm	: 800
guide sleeve	
travel mm	: 6.09
Tolerance mm	: + 0.10
Rated speed rpm	: 415
guide sleeve	
travel mm	: 3.72
Tolerance mm	: + 0.10
Rated speed rpm	: 550

guide sleeve	
travel mm	: 6.00
Tolerance mm	: + 0.10
Rated speed rpm	: 1160
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50
Rated speed rpm	: 864
guide sleeve	
travel mm	: 6.26
Tolerance mm	: + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 226.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 97.0
tolerance degree	: + 4.0
rack travel mm	: 13.00
Rated speed rpm	: 998
Tolerance 1/min	: + 8
rack travel mm	: 4.00
Rated speed rpm	: 1080
Tolerance 1/min	: + 15
rack travel mm	: 0.75
Tolerance mm	: + 0.75
Rated speed rpm	: 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : ± 0.10

Rated speed rpm : 870
rack travel mm : 14.30
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300

J24

rack travel mm : 11.90
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : ± 10.0

Check tolerance
cm³/1000s. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.95
Test oil : ISO 4113

Combination No. : 0 402 648 941

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0 412 628 886

Governor
Governor design. : RQV300...950PA1033
: -13
Governor no. : 0 421 814 094

Cust. part No. : D240742202

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.55
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.49
Tolerance mm : ± 0.15

Rated speed rpm : 1009
guide sleeve
travel mm : 8.52
Tolerance mm : ± 0.20

Rated speed rpm : 589
guide sleeve
travel mm : 4.97
Tolerance mm : ± 0.25

Rated speed rpm : 639
guide sleeve
travel mm : 5.51
Tolerance mm : ± 0.25

Rated speed rpm : 790
guide sleeve
travel mm : 6.48
Tolerance mm : ± 0.25

Rated speed rpm : 1100
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1050

Rack travel in mm : 12.00
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 226.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : ± 4.0

rack travel mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 66.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 7.60

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : ± 0.10

Rated speed rpm : 870
rack travel mm : 14.30
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.95
Test oil : ISO 4113

Combination No. : 0 402 648 942

Injection pump
Pump designation : FE8P120A320LS7847-3
EP type number : 0 412 628 886

Governor
Governor design. : RQ300/950PA1031-16
Governor no. : 0 421 801 722

Cust. part No. : 0240742302

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 226.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.70
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes	: 13.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.63
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 6.69
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.35
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 800
guide sleeve	
travel mm	: 6.09
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 428
guide sleeve	
travel mm	: 4.02

Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 550
guide sleeve	
travel mm	: 6.00
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1160
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50
<hr/>	
Rated speed rpm	: 864
guide sleeve	
travel mm	: 6.26
Tolerance mm	: + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
<hr/>	
Rack travel in mm	: 20.00
Tolerance mm	: + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 226.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 97.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 13.00
Rated speed rpm	: 998
Tolerance 1/min	: + 8
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1080
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.75

Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : + 0.10

Rated speed rpm : 870
rack travel mm : 14.30
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : + 0.20

Rated speed rpm : 400

K04

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : + 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000s. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.08.95
Test oil : ISO 4113
Combination No. : 0 402 648 946
Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0 412 628 886
Governor
Governor design. : RQ300/1050PA1031-15
Governor no. : 0 421 801 721

Cust. part No. : 0230747902

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Tolerance l/h : + 10.0
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 075

K06

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 5.55
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 20.50
Tolerance mm : + 0.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.50
Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550
Rack travel in mm : 14.40
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : + 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: 5.70
Tolerance mm	: ± 0.30
Del. quantity	
cm ³ /1000 strokes	: 13.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.75
Tolerance mm	: ± 0.10
Rated speed rpm	: 1104
guide sleeve	
travel mm	: 6.64
Tolerance mm	: ± 0.10
Rated speed rpm	: 1050
guide sleeve	
travel mm	: 6.30
Tolerance mm	: ± 0.10
Rated speed rpm	: 790
guide sleeve	
travel mm	: 6.08
Tolerance mm	: ± 0.10
Rated speed rpm	: 407
guide sleeve	
travel mm	: 4.27
Tolerance mm	: ± 0.10
Rated speed rpm	: 510

guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10
Rated speed rpm	: 1270
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 844
guide sleeve	
travel mm	: 6.23
Tolerance mm	: ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 226.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 99.0
tolerance degree	: ± 4.0
rack travel mm	: 13.00
Rated speed rpm	: 1098
Tolerance 1/min	: ± 8
rack travel mm	: 4.00
Rated speed rpm	: 1190
Tolerance 1/min	: ± 15
rack travel mm	: 0.70
Tolerance mm	: ± 0.70
Rated speed rpm	: 1300

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 5.10

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 14.05
Tolerance mm : ± 0.10

Rated speed rpm : 950
rack travel mm : 14.20
Tolerance mm : ± 0.10

Rated speed rpm : 800
rack travel mm : 14.40
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : ± 0.15

Rated speed rpm : 400
Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : ± 0.10

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 285.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.95
Test oil : ISO 4113
Combination No. : 0 402 648 964
Injection pump
Pump designation : PE8P120A920/4LS7266
: -1
EP type number : 0 412 628 898
Governor
Governor design. : RQ1050PA758-19
Governor no. : 0 421 801 688

Cust. part No. : 1340531

Customer-spec. information
Customer : SCANIA
Motor : D 14

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Vibration
damper
(RoBo diaphragm) : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 104
Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 5.05
Tolerance mm : + 0.50
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8
Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850
Rack travel in mm : 14.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 262.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rack travel in mm : 5.30
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 262.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 30.0

K11

tolerance degree : ± 4.0
control lever
position degree : 92.0
tolerance degree : ± 4.0

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 220
rack travel mm : 12.00
Tolerance mm : ± 0.20

Pressure hPa : 510
rack travel mm : 13.95
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.00
Tolerance mm : ± 0.20

Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.95
Test oil : ISO 4113
Combination No. : 0 402 648 965
Injection pump
Pump designation : PE8P120A920/4LS7266
: -1
EP type number : 0 412 628 898
Governor
Governor design. : RQ900PA758-20
Governor no. : 0 421 801 689

Cust. part No. : 1340616

Customer-spec. information
Customer : SCANIA
Motor : D 14

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Vibration damper
(RoBo diaphragm) : 3.2
Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holder assembly : 1 688 901 104
Opening pressure bar : 251.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 5.05
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8
Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850
Rack travel in mm : 14.95
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 287.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rack travel in mm : 5.30
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : ± 4.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 287.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 26.0

tolerance degree : ± 4.0

control lever
position degree : 87.0
tolerance degree : ± 4.0

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.95
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 220
rack travel mm : 12.00
Tolerance mm : ± 0.20

Pressure hPa : 510
rack travel mm : 13.95
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.02.95
Test oil : ISO 4113

Combination No. : 0 402 648 974

Injection pump
Pump designation : FE8P120A320LS7875
EP type number : 0 412 628 881

Governor
Governor design. : RQ250/1150PA1122
Governor no. : 0 421 801 704

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-8TC

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.20
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 16.00
Tolerance mm : ± 1.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 208.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.39
Tolerance mm : + 0.10

Rated speed rpm : 1207
guide sleeve
travel mm : 6.36
Tolerance mm : + 0.10

Rated speed rpm : 650
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 382
guide sleeve
travel mm : 5.26
Tolerance mm : + 0.10

Rated speed rpm : 450
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1370

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 208.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 34.0
tolerance degree : + 4.0

control lever
position degree : 95.0
tolerance degree : + 4.0

rack travel mm : 12.60
Rated speed rpm : 1202
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 75.0

tolerance degree : + 4.0

control lever
position degree : 14.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 375
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.20

TORQUE CONTROL

Rated speed rpm : 650
rack travel mm : 13.60
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.60
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.00
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 12.50
Tolerance mm : + 0.20

Pressure hPa : 250
rack travel mm : 10.00
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000s. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1202
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 203.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000s. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.95
Test oil : ISO 4113

Combination No. : 0 402 648 982

Injection pump
Pump designation : FE8P120A320LS7884
EP type number : 0 412 628 900

Governor
Governor design. : RQV350...1200PA1197
Governor no. : 0 421 814 116

Cust. part No. : 0250744102

Customer-spec. information

Customer : MTU
Motor : 8V-183-03
Power KW : 564.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 9.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 260.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 3.80
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.53
Tolerance mm : + 0.20

Rated speed rpm : 1255
guide sleeve
travel mm : 8.31
Tolerance mm : + 0.15

Rated speed rpm : 1000
guide sleeve
travel mm : 5.83
Tolerance mm : + 0.25

Rated speed rpm : 407
guide sleeve
travel mm : 2.57
Tolerance mm : + 0.25

Rated speed rpm : 457
guide sleeve
travel mm : 3.13
Tolerance mm : + 0.25

Rated speed rpm : 610

guide sleeve
travel mm : 3.65
Tolerance mm : + 0.25

Rated speed rpm : 1360
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 1470
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1320

Rack travel in mm : 13.00
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 650

Del. quantity
cm³/1000 strokes : 260.5
Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : + 4.0

rack travel mm : 12.70
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1345
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 64.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 3.80
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 5.30

Rated speed rpm : 450

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 9.50
Tolerance mm : ± 0.05

Rated speed rpm : 1200
rack travel mm : 13.75
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 13.75
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****MEASUREMENT**

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 6.00
Tolerance mm : ± 0.15

Pressure hPa : 500
rack travel mm : 9.00
Tolerance mm : ± 0.05

Pressure hPa : 250
rack travel mm : 7.30
Tolerance mm : ± 0.10

Pressure hPa : 1400
rack travel mm : 12.50
Tolerance mm : ± 0.05

Pressure hPa : 1000
rack travel mm : 10.50
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1200
Del. quantity
cm³/1000 strokes : 334.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 389.5
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.70

Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 415.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 3.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.08.95
Test oil : ISO 4113

Combination No. : 0 402 666 800

Injection pump
Pump designation : PE6P120A320/3LS7854
: -2

EP type number : 0 412 626 935

Governor
Governor design. : RSV600...1050POA826
: -7

Governor no. : 0 421 833 453

Cust. part No. : 0240747002

Customer-spec. information
Customer : MB-NFZ
Motor : OM 441 LA
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

K24

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 14.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 256.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 500

Rack travel in mm : 3.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 256.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 87.0
tolerance degree : ± 4.0

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 600
rack travel mm : 3.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 630
Tolerance 1/min : ± 30

Rated speed rpm : 100
CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1030
rack travel mm : 14.50
Tolerance mm : ± 0.05

Rated speed rpm : 600
rack travel mm : 14.50
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -

Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 600
rack travel mm : 3.70
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.08.95
Test oil : ISO 4113
Combination No. : 0 402 735 805
Injection pump
Pump designation : PES5P120A720/3LS7250
EP type number : 0 412 725 809
Governor
Governor design. : RQV325...1000PA962
: -6K
Governor no. : 0 421 815 301
Cust. part No. : 3-7202

Customer-spec. information
Customer : MAN
Motor : D2865LF06/LU06
Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.85
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 15.50
Tolerance mm : ± 0.50
Firing order : 1- 3- 5- 4- 2
Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery blocking
Barrel no. : 5

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 5.00
Tolerance mm : ± 0.10
Tolerance
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000S. : ± 14.0

Speed

Tolerance
 cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0

Rated speed rpm : 900

Rack travel in mm : 12.45
 Tolerance mm : +- 0.05

Del. quantity
 cm³/1000 strokes : 261.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spread
 Tolerance
 cm³/1000 strokes : 10.0

Check tolerance
 cm³/1000S. : 14.0

Rated speed rpm : 350

Rack travel in mm : 5.00
 Tolerance mm : +- 0.20

Del. quantity
 cm³/1000 strokes : 50.0

Tolerance
 cm³/1000 strokes : +- 3.0

Check tolerance
 cm³/1000S. : +- 6.0

Spread
 Tolerance
 cm³/1000 strokes : 10.0

Check tolerance
 cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve
 travel mm : 3.30
 Tolerance mm : +- 0.25

Rated speed rpm : 1055
 guide sleeve
 travel mm : 8.92
 Tolerance mm : +- 0.25

Rated speed rpm : 810
 guide sleeve
 travel mm : 6.08
 Tolerance mm : +- 0.25

Rated speed rpm : 352
 guide sleeve
 travel mm : 3.13
 Tolerance mm : +- 0.25

Rated speed rpm : 402
 guide sleeve
 travel mm : 3.98
 Tolerance mm : +- 0.25

Rated speed rpm : 510
 guide sleeve
 travel mm : 4.42
 Tolerance mm : +- 0.25

Rated speed rpm : 1198
 guide sleeve
 travel mm : 12.00
 Tolerance mm : +- 0.25

Rated speed rpm : 1290
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 11.20
 Tolerance mm : +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
 Aneroid pressure
 hPa : 1200

Del. quantity
 cm³/1000 strokes : 261.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spread
 Tolerance
 cm³/1000 strokes : 10.0

Check tolerance
 cm³/1000S. : 14.0

RATED SPEED

control lever
position degree : 292.0
tolerance degree : +- 4.0

rack travel mm : 11.20
Rated speed rpm : 1045
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 246.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : +- 0.10

Rated speed rpm : 250

CRT mm min. : > 6.50

Rated speed rpm : 395

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.45
Tolerance mm : +- 0.05

Rated speed rpm : 1000
rack travel mm : 12.20
Tolerance mm : +- 0.10

Rated speed rpm : 650
rack travel mm : 12.10
Tolerance mm : +- 0.10

Rated speed rpm : 650
rack travel mm : 5.50
Tolerance mm : +- 0.10

Rated speed rpm : 400
rack travel mm : 11.25
Tolerance mm : +- 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 12.45
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 8.40
Tolerance mm : +- 0.10

Rated speed rpm : 900

Pressure hPa : 600
rack travel mm : 11.45
Tolerance mm : +- 0.15

Pressure hPa : 170
rack travel mm : 8.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 290
Check
speed 1/min : < 310

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 246.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 273.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed

L02

Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.08.95
Test oil : ISO 4113

Combination No. : 0 402 735 809

Injection pump
Pump designation : PES5P120A720/3LS7310
EP type number : 0 412 725 817

Governor
Governor design. : RQ325/1000PA1106
Governor no. : 0 421 801 698

Cust. part No. : 51.11103-7302

Customer-spec. information

Customer : MAN
Motor : D 2865 LUH 05
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 255.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 325
Rack travel in mm	: 4.80
Tolerance mm	: + 0.20
Del. quantity	
cm ³ /1000 strokes	: 37.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 325
guide sleeve	
travel mm	: 2.70
Tolerance mm	: + 0.10
Rated speed rpm	: 1059
guide sleeve	
travel mm	: 7.62
Tolerance mm	: + 0.10
Rated speed rpm	: 1000
guide sleeve	
travel mm	: 7.30
Tolerance mm	: + 0.10
Rated speed rpm	: 769
guide sleeve	
travel mm	: 7.08
Tolerance mm	: + 0.10
Rated speed rpm	: 399
guide sleeve	
travel mm	: 4.44
Tolerance mm	: + 0.10
Rated speed rpm	: 530

guide sleeve	
travel mm	: 7.00
Tolerance mm	: + 0.10
Rated speed rpm	: 1210
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50
Rated speed rpm	: 802
guide sleeve	
travel mm	: 7.23
Tolerance mm	: + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 700
Rack travel in mm	: 15.50
Tolerance mm	: + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 255.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 103.0
tolerance degree	: + 4.0
rack travel mm	: 12.00
Rated speed rpm	: 1053
Tolerance 1/min	: + 8
rack travel mm	: 4.00
Rated speed rpm	: 1130
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 11.50
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 13.00
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 13.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 250

LOS

rack travel mm : 9.20
Tolerance mm : ± 0.15

Pressure hPa : 600
rack travel mm : 10.95
Tolerance mm : ± 0.15

Pressure hPa : 1100
rack travel mm : 11.90
Tolerance mm : ± 0.10

Pressure hPa : 1350
rack travel mm : 12.60
Tolerance mm : ± 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 266.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 37.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 402 735 812

Injection pump
Pump designation : PESSP120A720/3LS7250
: -1

EP type number : 0 412 725 819

Governor
Governor design. : RQV325...1000PA962
: -6K

Governer no. : 0 421:815 301

Cust. part No. : 51.11103-7323

Customer-spec. information

Customer : MAN
Motor : D2865LF06/LU06
Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : +- 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5

L07

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.85
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 15.50
Tolerance mm : +- 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 79.0

Tolerance
cm³/1000 strokes : + 8.0

Check tolerance
cm³/1000S. : + 14.0

Spreed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 900

Rack travel in mm : 12.30
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 350

Rack travel in mm : 5.00
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 50.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325

guide sleeve
travel mm : 2.42
Tolerance mm : + 0.25

Rated speed rpm : 1055
guide sleeve
travel mm : 8.93
Tolerance mm : + 0.25

Rated speed rpm : 810
guide sleeve
travel mm : 6.08
Tolerance mm : + 0.25

Rated speed rpm : 352
guide sleeve
travel mm : 3.13
Tolerance mm : + 0.25

Rated speed rpm : 402
guide sleeve
travel mm : 3.98
Tolerance mm : + 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 4.42
Tolerance mm : + 0.25

Rated speed rpm : 1198
guide sleeve
travel mm : 12.00
Tolerance mm : + 0.25

Rated speed rpm : 1290
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 11.20
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed

Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

RATED SPEED

control lever
position degree : 292.0
tolerance degree : ± 4.0

rack travel mm : 11.20
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 246.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 6.50

Rated speed rpm : 395

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.30
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 12.20
Tolerance mm : ± 0.10

Rated speed rpm : 650
rack travel mm : 12.10
Tolerance mm : ± 0.10

L09

Rated speed rpm : 400
rack travel mm : 11.25
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING *

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 12.30
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 8.40
Tolerance mm : ± 0.10

Rated speed rpm : 900

Pressure hPa : 170
rack travel mm : 8.75
Tolerance mm : ± 0.05

Pressure hPa : 600
rack travel mm : 11.45
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 290
Check
speed 1/min : < 310

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 268.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 160.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.20

Rated speed rpm : 1045

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : +- 10.0

Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 350

rack travel mm : 5.00

Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 50.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 402 735 813

Injection pump
Pump designation : PES5P120A720/3LS7250
: -1
EP type number : 0 412 725 819

Governor
Governor design. : RQV325...1000PA960
: -9K
Governor no. : 0 421 815 309

Cust. part No. : 51.11103-7339

Customer-spec. information

Customer : MAN
Motor : D2865LF06/LU06
Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

L11

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.50
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 79.0

Tolerance
 cm³/1000 strokes : + 8.0

 Check tolerance
 cm³/1000S. : + 14.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0
 Rated speed rpm : 900

 Rack travel in mm : 12.30
 Tolerance mm : + 0.05

 Del. quantity
 cm³/1000 strokes : 251.0

 Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 10.0

 Check tolerance
 cm³/1000S. : 14.0
 Rated speed rpm : 325
 Rack travel in mm : 5.00
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 50.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325

guide sleeve
 travel mm : 2.66
 Tolerance mm : + 0.25
 Rated speed rpm : 1058
 guide sleeve
 travel mm : 10.58
 Tolerance mm : + 0.25
 Rated speed rpm : 741
 guide sleeve
 travel mm : 6.99
 Tolerance mm : + 0.25
 Rated speed rpm : 260
 guide sleeve
 travel mm : 2.01
 Tolerance mm : + 0.25
 Rated speed rpm : 310
 guide sleeve
 travel mm : 2.58
 Tolerance mm : + 0.25
 Rated speed rpm : 430
 guide sleeve
 travel mm : 3.71
 Tolerance mm : + 0.25
 Rated speed rpm : 1260
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1115
 Rack travel in mm : 11.10
 Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 251.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

RATED SPEED

control lever
position degree : 297.0
tolerance degree : ± 4.0

rack travel mm : 11.10
Rated speed rpm : 1045
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 252.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.00
Tolerance mm : ± 0.10

Rated speed rpm : 225

CRT mm min. : > 6.50

Rated speed rpm : 305

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.30
Tolerance mm : ± 0.05

Rated speed rpm : 1000
rack travel mm : 12.20
Tolerance mm : ± 0.10

Rated speed rpm : 650
rack travel mm : 12.10
Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 11.25
Tolerance mm : ± 0.15

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 12.30
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 8.40
Tolerance mm : ± 0.10

Rated speed rpm : 900

Pressure hPa : 170
rack travel mm : 8.75
Tolerance mm : ± 0.05

Pressure hPa : 600
rack travel mm : 11.45
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 239.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 268.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1045
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.00
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.08.95
Test oil : ISO 4113

Combination No. : 0 402 735 815

Injection pump
Pump designation : PES5P120A720/3LS7310
: -1

EP type number : 0 412 725 820

Governor
Governor design. : RQ325/1000PA1106
Governor no. : 0 421 801 698

Cust. part No. : 51.11103-7350

Customer-spec. information

Customer : MAN
Motor : D 2865 LUH 05
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 115
Tolerance L/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 255.0

Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : 4.80
 Tolerance mm : ± 0.20

Del. quantity
 cm³/1000 strokes : 37.0

Tolerance
 cm³/1000 strokes : ± 3.0

Check tolerance
 cm³/1000S. : ± 6.0

Spread
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 2.49
 Tolerance mm : ± 0.10

Rated speed rpm : 1059
 guide sleeve
 travel mm : 7.34
 Tolerance mm : ± 0.10

Rated speed rpm : 1000
 guide sleeve
 travel mm : 7.01
 Tolerance mm : ± 0.10

Rated speed rpm : 777
 guide sleeve
 travel mm : 7.01
 Tolerance mm : ± 0.10

Rated speed rpm : 399
 guide sleeve
 travel mm : 4.24
 Tolerance mm : ± 0.10

Rated speed rpm : 540
 guide sleeve
 travel mm : 7.00
 Tolerance mm : ± 0.10

Rated speed rpm : 1210
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 15.50
 Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 900

Del. quantity
 cm³/1000 strokes : 255.0

Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 103.0
 tolerance degree : ± 4.0

rack travel mm : 12.00
 Rated speed rpm : 1053
 Tolerance 1/min : ± 8

rack travel mm : 4.00
 Rated speed rpm : 1130
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 11.50
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 13.00
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 250
rack travel mm : 9.20
Tolerance mm : + 0.15

Pressure hPa : 600

rack travel mm : 10.95
Tolerance mm : + 0.15

Pressure hPa : 1100
rack travel mm : 11.90
Tolerance mm : + 0.10

Pressure hPa : 1350
rack travel mm : 12.60
Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 266.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.80
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 37.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.08.95
Test oil : ISO 4113

Combination No. : 0 402 735 817

Injection pump
Pump designation : PES5P120A720/3LS7310
: -1
EP type number : 0 412 725 820

Governor
Governor design. : RQ325/1000PA1229
Governor no. : 0 421 801 786

Cust. part No. : 51.11103-7409

Customer-spec. information

Customer : MAN
Motor : D2865LUH05/MANAS
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 255.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 325
Rack travel in mm	: 4.90
Tolerance mm	: +- 0.20
Del. quantity	
cm ³ /1000 strokes	: 37.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 325
guide sleeve	
travel mm	: 2.68
Tolerance mm	: +- 0.10
Rated speed rpm	: 1060
guide sleeve	
travel mm	: 7.61
Tolerance mm	: +- 0.10
Rated speed rpm	: 1000
guide sleeve	
travel mm	: 7.30
Tolerance mm	: +- 0.10
Rated speed rpm	: 769
guide sleeve	
travel mm	: 7.08
Tolerance mm	: +- 0.10
Rated speed rpm	: 399
guide sleeve	
travel mm	: 4.42
Tolerance mm	: +- 0.10
Rated speed rpm	: 530

guide sleeve	
travel mm	: 7.00
Tolerance mm	: +- 0.10
Rated speed rpm	: 1210
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 803
guide sleeve	
travel mm	: 7.23
Tolerance mm	: +- 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 700
Rack travel in mm	: 15.50
Tolerance mm	: +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 255.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 282.0
tolerance degree	: +- 4.0
rack travel mm	: 12.00
Rated speed rpm	: 1053
Tolerance 1/min	: +- 8
rack travel mm	: 4.00
Rated speed rpm	: 1130
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 253.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.90
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 6.60

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 11.50
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 1000
rack travel mm : 13.00
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 13.00
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : 250

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rack travel mm : 9.20
Tolerance mm : + 0.15

Pressure hPa : 600
rack travel mm : 10.95
Tolerance mm : + 0.15

Pressure hPa : 1100
rack travel mm : 11.90
Tolerance mm : + 0.10

Pressure hPa : 1350
rack travel mm : 12.60
Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 266.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000s. : ± 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.90
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 37.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.08.95
Test oil : ISO 4113

Combination No. : 0 402 735 818

Injection pump
Pump designation : PES5P120A720/3LS7310
: -1
EP type number : 0 412 725 820

Governor
Governor design. : RQ325/1000PA1228
Governor no. : 0 421 801 789

Cust. part No. : 51.11103-7337

Customer-spec. information
Customer : MAN
Motor : D 2865 LOH 05
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 115
Tolerance L/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

L23

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.80
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 5

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 11.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 255.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm3/1000S.	: +- 4.0
<hr/>	
Spread	
Tolerance	
cm3/1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm3/1000S.	: 9.0
Rated speed rpm	: 325
Rack travel in mm	: 4.90
Tolerance mm	: +- 0.20
Del. quantity	
cm3/1000 strokes	: 37.0
Tolerance	
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000S.	: +- 6.0
Spread	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 325
guide sleeve	
travel mm	: 2.68
Tolerance mm	: +- 0.10
Rated speed rpm	: 1060
guide sleeve	
travel mm	: 7.62
Tolerance mm	: +- 0.10
Rated speed rpm	: 1000
guide sleeve	
travel mm	: 7.30
Tolerance mm	: +- 0.10
Rated speed rpm	: 771
guide sleeve	
travel mm	: 7.08
Tolerance mm	: +- 0.10
Rated speed rpm	: 400
guide sleeve	
travel mm	: 4.41
Tolerance mm	: +- 0.10
Rated speed rpm	: 530

guide sleeve	
travel mm	: 7.00
Tolerance mm	: +- 0.10
Rated speed rpm	: 1210
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 804
guide sleeve	
travel mm	: 7.23
Tolerance mm	: +- 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 700
Rack travel in mm	: 15.50
Tolerance mm	: +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 950
Del. quantity	
cm3/1000 strokes	: 255.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000S.	: +- 4.0
Spread	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 281.0
tolerance degree	: +- 4.0
rack travel mm	: 11.70
Rated speed rpm	: 1053
Tolerance 1/min	: +- 8
rack travel mm	: 4.00
Rated speed rpm	: 1130
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 253.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.90
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 6.60

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 11.50
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 1000
rack travel mm : 12.70
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 13.00
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : 250

L25

rack travel mm : 9.20
Tolerance mm : + 0.15

Pressure hPa : 600
rack travel mm : 10.95
Tolerance mm : + 0.15

Pressure hPa : 1200
rack travel mm : 11.90
Tolerance mm : + 0.10

Pressure hPa : 1400
rack travel mm : 12.60
Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 257.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1053
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.90
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 37.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.07.95
Test oil : ISO 4113

Combination No. : 0 402 736 859

Injection pump
Pump designation : PES6P120A120RS7261
EP type number : 0 412 726 876

Governor
Governor design. : RQV350...1100PA924
: -10K
Governor no. : 0 421 815 429

Cust. part No. : 3282465

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 176.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 18.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 7.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 145.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 350
Rack travel in mm	: 5.10
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 26.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 5.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 7.0
Check tolerance	
cm ³ /1000S.	: 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 1400
Rack travel in mm	: 9.00
Tolerance mm	: +- 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 145.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 113.0
tolerance degree	: +- 4.0
rack travel mm	: 9.80
Rated speed rpm	: 1145
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1255
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 68.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 5.10
Tolerance mm	: +- 0.10
Rated speed rpm	: 250
CRT mm min.	: > 6.60
Rated speed rpm	: 400

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 10.85
Tolerance mm	: +- 0.05
Rated speed rpm	: 700
rack travel mm	: 10.00
Tolerance mm	: +- 0.10
Rated speed rpm	: 900
rack travel mm	: 10.35
Tolerance mm	: +- 0.15
Rated speed rpm	: 400
rack travel mm	: 9.15
Tolerance mm	: +- 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 900
rack travel mm : 10.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.70
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 320
rack travel mm : 8.50
Tolerance mm : \pm 0.20

Pressure hPa : 560
rack travel mm : 10.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0

M01

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.07.95
Test oil : ISO 4113

Combination No. : 0 402 736 861

Injection pump
Pump designation : PES6P120A12ORS7261
EP type number : 0 412 726 876

Governor
Governor design. : RQV350...1100PA924
: -11K
Governor no. : 0 421 815 431

Cust. part No. : 3282468

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

M02

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 18.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 7.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 166.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 5.0

Speed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1400

Rack travel in mm : 9.00
Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 166.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 57.0

M03

tolerance degree : + 4.0

control lever
position degree : 115.0
tolerance degree : + 4.0

rack travel mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 70.0
tolerance degree : + 4.0

control lever
position degree : 17.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.90
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.30

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.05
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 11.30
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 11.55
Tolerance mm : + 0.15

Rated speed rpm : 500
rack travel mm : 10.55
Tolerance mm : + 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 12.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 7.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 320
rack travel mm : 8.30
Tolerance mm : \pm 0.20

Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0

MG4

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.08.95
Test oil : ISO 4113

Combination No. : 0 402 736 888

Injection pump
Pump designation : PES6P120A120RS7390
EP type number : 0 412 726 945

Governor
Governor design. : RQV350...1100PA1237K
Governor no. : 0 421 815 475

Cust. part No. : 3282740

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 90
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.90
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 10.50
Tolerance : ± 0.50

Check
tolerance *NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.60

Tolerance mm : \pm 0.05

 Del. quantity
 cm³/1000 strokes : 164.0

 Tolerance
 cm³/1000 strokes : \pm 1.0

 Check tolerance
 cm³/1000S. : \pm 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0

 Rated speed rpm : 350

 Rack travel in mm : 4.80
 Tolerance mm : \pm 0.30
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 7.0
 Check tolerance
 cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve
 travel mm : 1.93
 Tolerance mm : \pm 0.20

 Rated speed rpm : 1159
 guide sleeve
 travel mm : 10.27
 Tolerance mm : \pm 0.15

 Rated speed rpm : 710
 guide sleeve
 travel mm : 5.79
 Tolerance mm : \pm 0.25

 Rated speed rpm : 420
 guide sleeve
 travel mm : 4.28
 Tolerance mm : \pm 0.25

Rated speed rpm : 1380
 guide sleeve
 travel mm : 13.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1200

 Rack travel in mm : 11.60
 Tolerance mm : \pm 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 164.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 69.0
 tolerance degree : \pm 4.0

 control lever
 position degree : 123.0
 tolerance degree : \pm 4.0

 rack travel mm : 11.60
 Rated speed rpm : 1145
 Tolerance 1/min : \pm 5

 rack travel mm : 4.00
 Rated speed rpm : 1230
 Tolerance 1/min : \pm 15

 rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

control lever
position degree : 21.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : +- 0.10

Rated speed rpm : 250

CRT mm min. : > 7.70

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.60
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 12.30
Tolerance mm : +- 0.10

Rated speed rpm : 900
rack travel mm : 12.35
Tolerance mm : +- 0.15

Rated speed rpm : 600
rack travel mm : 12.00
Tolerance mm : +- 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1500
rack travel mm : 12.60
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 10.25
Tolerance mm : +- 0.20

Rated speed rpm : 1100

M07

Pressure hPa : 170
rack travel mm : 11.10
Tolerance mm : +- 0.20

Pressure hPa : 330
rack travel mm : 12.10
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 280
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50

Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.08.95
Test oil : ISO 4113
Combination No. : 0 402 736 890
Injection pump
Pump designation : FES6P120A120RS7314
EP type number : 0 412 726 901
Governor
Governor design. : RQV400...1250PA964
 : -32K
Governor no. : 0 421 815 486
Cust. part No. : 3282607

Customer-spec. information
Customer : CUMMINS
Motor : 6BTAA
Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008

M09

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.70
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 12.50
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery blocking
°NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 14.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 6.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 1.39
Tolerance mm : ± 0.20

Rated speed rpm : 1314
guide sleeve
travel mm : 7.65
Tolerance mm : ± 0.15

Rated speed rpm : 864
guide sleeve
travel mm : 4.76
Tolerance mm : ± 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 3.33
Tolerance mm : ± 0.25

Rated speed rpm : 1700

guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1430

Rack travel in mm : 13.60
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : ± 4.0

control lever
position degree : 117.0
tolerance degree : ± 4.0

rack travel mm : 13.60
Rated speed rpm : 1295
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1480
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 73.0

tolerance degree : + 4.0
control lever
position degree : 16.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 6.50
Tolerance mm : + 0.10

Rated speed rpm : 300
CRT mm min. : > 8.50

Rated speed rpm : 430

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 14.60
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 400
rack travel mm : 12.25
Tolerance mm : + 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1500
rack travel mm : 14.60
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 11.10
Tolerance mm : + 0.10

Rated speed rpm : 1250

Pressure hPa : 275
rack travel mm : 11.90
Tolerance mm : + 0.20

Pressure hPa : 485
rack travel mm : 13.80

Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 320
Check
speed 1/min : < 360

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 1295
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 6.50
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113

Combination No. : 0 402 744 804

Injection pump
Pump designation : PES4P120A32ORS7402
EP type number : 0 412 724 804

Governor
Governor design. : RQV275...1300PA1257K
Governor no. : 0 421 815 494

Cust. part No. : CCEP 5154 66-238

Customer-spec. information

Customer : RVI
Motor : MIDR 04-02-26 A4
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.20
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 325
 Rack travel in mm : -8.80
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 28.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.52
 Tolerance mm : +- 0.20
 Rated speed rpm : 1377
 guide sleeve
 travel mm : 10.32
 Tolerance mm : +- 0.15
 Rated speed rpm : 938
 guide sleeve
 travel mm : 6.86
 Tolerance mm : +- 0.25
 Rated speed rpm : 550
 guide sleeve
 travel mm : 3.92
 Tolerance mm : +- 0.25
 Rated speed rpm : 1650
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1464
 Rack travel in mm : 13.10
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 245.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 300.0
 tolerance degree : +- 4.0
 rack travel mm : -1.00
 Rated speed rpm : 1365
 Tolerance 1/min : +- 5
 rack travel mm : -10.10
 Rated speed rpm : 1495
 Tolerance 1/min : +- 15
 rack travel mm : -14.05
 Tolerance mm : +- 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 252.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : -8.80
 Tolerance mm : +- 0.10
 Rated speed rpm : 225
 CRT mm min. : > 6.54
 Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1200
Rated speed rpm : 850
rack travel mm : -1.05
Tolerance mm : + 0.10
Rated speed rpm : 1300
rack travel mm : -0.45
Tolerance mm : + 0.25
Rated speed rpm : 700
rack travel mm : -6.00
Tolerance mm : + 0.20

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 1200
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1200
rack travel mm : -2.50
Tolerance mm : + 0.20

Rated speed rpm : 1200
Pressure hPa : 200
rack travel mm : -1.95
Tolerance mm : + 0.20
Pressure hPa : 440
rack travel mm : -0.70
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 275
Check speed 1/min : < 285

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + 6.0
Check tolerance
cm³/1000S. : + 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 1200
Del. quantity
cm³/1000 strokes : 183.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1365
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : -8.80
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 28.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 6.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.08.95
Test oil : ISO 4113

Combination No. : 0 402 746 645

Injection pump
Pump designation : PES6P120A320RS736A
EP type number : 0 412 726 930

Governor
Governor design. : RQV300...1050PA1204
Governor no. : 0 421 814 123

Cust. part No. : CCEP 5148 66-236

Customer-spec. information

Customer : RVI
Motor : MIDR 06.20.45D41
Power KW : 217.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

M17

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.25
Tolerance mm : ± 0.75

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 278.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : -7.30
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 25.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.33
 Tolerance mm : +- 0.25
 Rated speed rpm : 1135
 guide sleeve
 travel mm : 8.45
 Tolerance mm : +- 0.25
 Rated speed rpm : 752
 guide sleeve
 travel mm : 6.09
 Tolerance mm : +- 0.25
 Rated speed rpm : 365
 guide sleeve
 travel mm : 2.40
 Tolerance mm : +- 0.25
 Rated speed rpm : 415
 guide sleeve
 travel mm : 3.28
 Tolerance mm : +- 0.25
 Rated speed rpm : 460
 guide sleeve
 travel mm : 3.86
 Tolerance mm : +- 0.25
 Rated speed rpm : 1460
 guide sleeve
 travel mm : 11.50

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1230
 Rack travel in mm : 11.70
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 278.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 302.0
 tolerance degree : +- 4.0
 rack travel mm : -1.00
 Rated speed rpm : 1120
 Tolerance 1/min : +- 5
 rack travel mm : -9.60
 Rated speed rpm : 1290
 Tolerance 1/min : +- 15
 rack travel mm : -13.10
 Tolerance mm : +- 0.50
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 267.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 200

CRT mm max. : < -4.80

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1050
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -2.10
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -1.45
Tolerance mm : +- 0.15

Pressure hPa : 400
rack travel mm : -0.50
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 230
Check
speed 1/min : < 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1120
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -7.30
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.07.95
Test oil : ISO 4113

Combination No. : 0 402 746 649

Injection pump
Pump designation : PES6P120A32ORS7359
EP type number : 0 412 726 925

Governor
Governor design. : RQ275/1050PA1217
Governor no. : 0 421 801 782

Cust. part No. : CCEP 5150 66
: -225/228

Customer-spec. information

Customer : RVI
Motor : MIDRO62045 I-B41
Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 220
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

M20

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.25
Tolerance mm : ± 0.75

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -6.10
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 33.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.37
Tolerance mm : + 0.10

Rated speed rpm : 1137
guide sleeve
travel mm : 6.37
Tolerance mm : + 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 391
guide sleeve
travel mm : 4.37
Tolerance mm : + 0.10

Rated speed rpm : 490
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1340

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 274.0
tolerance degree : + 4.0

rack travel mm : -1.00
Rated speed rpm : 1130
Tolerance 1/min : + 5

rack travel mm : -8.55
Rated speed rpm : 1245
Tolerance 1/min : + 15

rack travel mm : -12.10
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 252.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -6.10
Tolerance mm : +- 0.10

rack travel mm : -10.50
Rated speed rpm : 385
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : < -4.90

TORQUE CONTROL

Rated speed rpm : 700

Rated speed rpm : 1050
Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -1.50
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 200
rack travel mm : -0.95
Tolerance mm : +- 0.15

Pressure hPa : 240
rack travel mm : -0.60
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050

Del. quantity
cm³/1000 strokes : 197.5
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1130
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -6.10
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 33.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.07.95
Test oil : ISO 4113

Combination No. : 0 402 746 894

Injection pump
Pump designation : FES6P110A32ORS7208
EP type number : 0 412 716 803

Governor
Governor design. : RQV275...1175PA942
: -1K
Governor no. : 0 421 815 244

Cust. part No. : CCEP 5100A

Customer-spec. information

Customer : RVI
Motor : MIDR060226 M
Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1175

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : +- 2.5

Check tolerance
cm³/1000S. : +- 5.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.00
Tolerance mm : +- 0.25

Rated speed rpm : 1256
guide sleeve
travel mm : 9.17
Tolerance mm : +- 0.25

Rated speed rpm : 888
guide sleeve
travel mm : 6.57
Tolerance mm : +- 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 2.39
Tolerance mm : +- 0.25

Rated speed rpm : 440
guide sleeve
travel mm : 3.01
Tolerance mm : +- 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 3.92
Tolerance mm : +- 0.25

Rated speed rpm : 1650

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1400

Rack travel in mm : 13.00
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 114.0
tolerance degree : +- 4.0

rack travel mm : -1.00
Rated speed rpm : 1245
Tolerance 1/min : +- 5

rack travel mm : -10.05
Rated speed rpm : 1430
Tolerance 1/min : +- 15

rack travel mm : -13.55
Tolerance mm : +- 0.55
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 60.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -8.80
Tolerance mm : + 0.20

Rated speed rpm : 200
CRT mm max. : < -8.20

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 700
rack travel mm : -0.70
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : -6.05
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : -0.35
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1175
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1175
rack travel mm : -3.30
Tolerance mm : + 0.20

Rated speed rpm : 1175

Pressure hPa : 240
rack travel mm : -2.70
Tolerance mm : + 0.20

Pressure hPa : 520
rack travel mm : -1.45
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 200
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0
Speed
Tolerance
cm³/1000 strokes : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 75.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.5

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1245
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 402 746 909

Injection pump
Pump designation : FES6P120A32ORS7236
EP type number : 0 412 726 848

Governor
Governor design. : RQV275...1000PA1001
: -1
Governor no. : 0 421 813 936

Cust. part No. : CCEP 5116A PROJ.171

Customer-spec. information

Customer : RVI
Motor : MIDR 063540 J/3
Power KW : 306.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 039

Outside diameter : 8.0

M28

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : -8.60
 Tolerance mm : +- 0.20

Del. quantity
 cm³/1000 strokes : 31.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150
 Rack travel in mm : 16.50
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 310.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

NO1

control lever
 position degree : 302.0
 tolerance degree : +- 4.0

rack travel mm : -1.00
 Rated speed rpm : 1070
 Tolerance 1/min : +- 5

rack travel mm : -9.70
 Rated speed rpm : 1210
 Tolerance 1/min : +- 15

rack travel mm : -13.25
 Tolerance mm : +- 0.55
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 246.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : -8.60
 Tolerance mm : +- 0.10

Rated speed rpm : 200
 CRT mm max. : < -7.20

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600
 Rated speed rpm : 1000
 Tolerance mm : +- 0.10

Rated speed rpm : 500
 rack travel mm : -5.50
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -5.00
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -3.80
Tolerance mm : + 0.20

Pressure hPa : 600
rack travel mm : -0.95
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 225
Check speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

N02

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.60
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 402 746 931

Injection pump
Pump designation : PES6P120A320RS7236
EP type number : 0 412 726 848

Governor
Governer design. : RQV275...1000PA1001
: -2
Governer no. : 0 421 813 989

Cust. part No. : CCEP5128A 66-194

Customer-spec. information

Customer : RVI
Motor : MIDR 063540 N/3
Power KW : 283.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 19.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : -7.25
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 74.0

Tolerance
 cm³/1000 strokes : ± 1.0

 Check tolerance
 cm³/1000S. : ± 4.0
 Speed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.0
 Rated speed rpm : 600

 Del. quantity
 cm³/1000 strokes : 290.0

 Tolerance
 cm³/1000 strokes : ± 2.0

 Check tolerance
 cm³/1000S. : ± 5.0

 Speed
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 12.0
 Rated speed rpm : 300
 Rack travel in mm : -8.20
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 31.0
 Tolerance
 cm³/1000 strokes : ± 2.5
 Check tolerance
 cm³/1000S. : ± 5.0
 Speed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1190
 Rack travel in mm : 13.20
 Tolerance mm : ± 1.30

NO4

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Anzoid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 290.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 5.0
 Speed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 301.0
 tolerance degree : ± 4.0
 rack travel mm : -1.00
 Rated speed rpm : 1070
 Tolerance 1/min : ± 5
 rack travel mm : -9.30
 Rated speed rpm : 1205
 Tolerance 1/min : ± 15
 rack travel mm : -12.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 247.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : -8.20
 Tolerance mm : ± 0.10
 Rated speed rpm : 200
 CRT mm max. : < -6.80
 Rated speed rpm : 365

TORQUE CONTROL

Rated speed rpm : 600
Rated speed rpm : 1000
Tolerance mm : + 0.10
Rated speed rpm : 600
rack travel mm : -4.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.80
Tolerance mm : + 0.30

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -2.60
Tolerance mm : + 0.20

Pressure hPa : 480
rack travel mm : -0.75
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 195
Check speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 1000
Del. quantity cm³/1000 strokes : 270.0
Tolerance cm³/1000 strokes : + 4.0
Check tolerance cm³/1000S. : + 7.0

Aneroid pressure hPa : -
Rated speed rpm : 600
Del. quantity cm³/1000 strokes : 159.0
Tolerance cm³/1000 strokes : + 5.0
Check tolerance cm³/1000S. : + 8.0
Spread Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 167.0
Tolerance cm³/1000 strokes : + 1.0
Check tolerance cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity cm³/1000 strokes : 160.0
Tolerance cm³/1000 strokes : + 10.0
Check tolerance cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.20
Tolerance mm : + 0.20
Del. quantity cm³/1000 strokes : 31.0
Tolerance cm³/1000 strokes : + 2.5
Check tolerance cm³/1000S. : + 5.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 054

Injection pump
Pump designation : FE6P120A320RS8017
EP type number : 0 412 826 018

Governor
Governor design. : RQV300...1100PA1017
: -1
Governor no. : 0 421 814 023

Cust. part No. : 865811-P02 v. 06/93

Customer-spec. information
Customer : PENTA
Motor : TWD 1030 ME
Power KW : 212.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.05
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300
 Rack travel in mm : 4.30
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 2.5
 Check tolerance
 cm³/1000s. : + 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000s. : 8.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.19
 Tolerance mm : + 0.25

Rated speed rpm : 1137
 guide sleeve
 travel mm : 8.19
 Tolerance mm : + 0.25

Rated speed rpm : 816
 guide sleeve
 travel mm : 5.27
 Tolerance mm : + 0.25

Rated speed rpm : 385
 guide sleeve
 travel mm : 1.98
 Tolerance mm : + 0.25

Rated speed rpm : 435
 guide sleeve
 travel mm : 2.45
 Tolerance mm : + 0.25

Rated speed rpm : 530
 guide sleeve
 travel mm : 3.11
 Tolerance mm : + 0.25

Rated speed rpm : 1400
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1250
 Rack travel in mm : 10.00
 Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 205.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000s. : 11.0

RATED SPEED

control lever
 position degree : 58.0
 tolerance degree : + 4.0

control lever
 position degree : 114.0
 tolerance degree : + 4.0

rack travel mm : 10.05
 Rated speed rpm : 1125
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1210
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1320

LOW IDLE

control lever
 position degree : 80.0
 tolerance degree : + 4.0

control lever
 position degree : 15.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.30
Tolerance mm : ± 0.30

Rated speed rpm : 200
CRT mm min. : > 6.00

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 11.05
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 11.05
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 780
rack travel mm : 2.90
Tolerance mm : ± 0.20

Pressure hPa : 300
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.05
Rated speed rpm : 1125
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.30
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 064

Injection pump
Pump designation : PE6P120A320RS8030
EP type number : 0 412 826 030

Governor
Governor design. : RQV300...1100PA1017
: -2
Governor no. : 0 421 814 102

Cust. part No. : 3825107-P03

Customer-spec. information

Customer : PENTA
Motor : TWD 1230 ME
Power KW : 275.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

N10

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 275.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : + 2.5
 Check tolerance
 cm³/1000S. : + 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.41
 Tolerance mm : + 0.25

Rated speed rpm : 1182
 guide sleeve
 travel mm : 8.71
 Tolerance mm : + 0.25

Rated speed rpm : 834
 guide sleeve
 travel mm : 5.40
 Tolerance mm : + 0.25

Rated speed rpm : 385
 guide sleeve
 travel mm : 1.98
 Tolerance mm : + 0.25

Rated speed rpm : 435
 guide sleeve
 travel mm : 2.45
 Tolerance mm : + 0.25

Rated speed rpm : 530
 guide sleeve
 travel mm : 3.11
 Tolerance mm : + 0.25

Rated speed rpm : 1400
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1250

Rack travel in mm : 9.00
 Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 275.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 7.0
 Check tolerance
 cm³/1000S. : 11.0

RATED SPEED

control lever
 position degree : 46.0
 tolerance degree : + 4.0

control lever
 position degree : 112.0
 tolerance degree : + 4.0

rack travel mm : 10.80
 Rated speed rpm : 1070
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : + 4.0

control lever
 position degree : 12.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.60
Tolerance mm : ± 0.30

Rated speed rpm : 225
CRT mm min. : > 7.20

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.80
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.90
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 980
rack travel mm : 3.30
Tolerance mm : ± 0.20

Pressure hPa : 380
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1070
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 21.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 070

Injection pump
Pump designation : FE6P120A320RS8040
EP type number : 0 412 826 034

Governor
Governor design. : RQV300...1050PA1247
Governor no. : 0 421 814 163

Cust. part No. : 11031221
: -P02v 030895

Customer-spec. information
Customer : VME
Motor : TD 103 KCE
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 165
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N13

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 500

Rack travel in mm : 11.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 318.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 11.0
<hr/>	
Rated speed rpm	: 320
<hr/>	
Rack travel in mm	: 5.20
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 50.0
Tolerance	
cm ³ /1000 strokes	: +- 2.5
Check tolerance	
cm ³ /1000S.	: +- 5.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 320
guide sleeve	
travel mm	: 1.34
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1112
guide sleeve	
travel mm	: 7.91
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 806
guide sleeve	
travel mm	: 5.20
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 530
guide sleeve	
travel mm	: 3.11
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1400
guide sleeve	
travel mm	: 11.50

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1220
<hr/>	
Rack travel in mm	: 11.00
Tolerance mm	: +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 500
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes	: 318.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 11.0

RATED SPEED

control lever	
position degree	: 45.0
tolerance degree	: +- 4.0
<hr/>	
control lever	
position degree	: 112.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 9.80
Rated speed rpm	: 1100
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1180
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever	
position degree	: 84.0
tolerance degree	: +- 4.0

control lever
position degree : 17.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 320
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 220
CRT mm min. : > 7.80

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 500
rack travel mm : 11.80
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 10.80
Tolerance mm : ± 0.10

Rated speed rpm : 720
rack travel mm : 11.10
Tolerance mm : ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 840
rack travel mm : 2.60
Tolerance mm : ± 0.20

Pressure hPa : 230
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1100
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 320
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 50.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.09.95
Test oil : ISO 4113
Combination No. : 0 402 946 012
Injection pump
Pump designation : FES6P120A320RS8031
EP type number : 0 412 926 022
Governor
Governor design. : RQV300...1000PA1181K
Governor no. : 0 421 815 975

Cust. part No. : CCEP 5145A 66-234

Customer-spec. information
Customer : RVI
Motor : MIDR 063540 P 41
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 078
Inlet press. bar : 2.5
Test nozzle holder assembly : 1 688 901 105
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.65
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 11.00
Tolerance mm : +- 0.50
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300
Tolerance : +- 0.30
Check tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1
Beginning of delivery difference betw. rack trav. mm : 21.00
and maximum rack travel : 19.50
Difference ° CS : 2.75

BASIC SETTING

Rated speed rpm : 1000
Del. quantity cm3/1000 strokes : 356.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000s. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000s. : 9.0

Rated speed rpm : 325

Rack travel in mm : -8.00
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 34.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000s. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.47
 Tolerance mm : + 0.25

Rated speed rpm : 1082
 guide sleeve
 travel mm : 9.30
 Tolerance mm : + 0.25

Rated speed rpm : 797
 guide sleeve
 travel mm : 6.08
 Tolerance mm : + 0.25

Rated speed rpm : 383
 guide sleeve
 travel mm : 2.42
 Tolerance mm : + 0.25

Rated speed rpm : 433
 guide sleeve
 travel mm : 2.89
 Tolerance mm : + 0.25

Rated speed rpm : 530
 guide sleeve
 travel mm : 3.71
 Tolerance mm : + 0.25

Rated speed rpm : 1350
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1220
 Rack travel in mm : 12.00
 Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 356.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000s. : 9.0

RATED SPEED

control lever
 position degree : 295.0
 tolerance degree : + 4.0

rack travel mm : -1.00
 Rated speed rpm : 1065
 Tolerance 1/min : + 5

rack travel mm : -9.20
 Rated speed rpm : 1180
 Tolerance 1/min : + 15

rack travel mm : -12.90
 Tolerance mm : + 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 253.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : -8.00
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -6.20

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1000

Rated speed rpm : 600
rack travel mm : -0.55
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : -0.35
Tolerance mm : + 0.20

Rated speed rpm : 350
rack travel mm : -1.80
Tolerance mm : + 0.25

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1100
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : -4.60
Tolerance mm : + 0.20

Rated speed rpm : 1000

Pressure hPa : 280
rack travel mm : -3.70
Tolerance mm : + 0.20

Pressure hPa : 560
rack travel mm : -2.30

N19

Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 386.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 237.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1065
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 325

rack travel mm : -8.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 34.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.07.95
Test oil : ISO 4113

Combination No. : 0 402 946 014

Injection pump
Pump designation : PES6P120A720LS8037
EP type number : 0 412 926 024

Governor
Governor design. : RQV250...1050PA1236K
Governor no. : 0 421 815 970

Cust. part No. : 1370101

Customer-spec. information
Customer : SCANIA
Motor : DSC1202

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.00
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 775

Rack travel in mm : 14.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 330.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.60
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.79
Tolerance mm : +- 0.20

Rated speed rpm : 1116
guide sleeve
travel mm : 10.09
Tolerance mm : +- 0.15

Rated speed rpm : 644
guide sleeve
travel mm : 4.47
Tolerance mm : +- 0.25

Rated speed rpm : 290
guide sleeve
travel mm : 2.62
Tolerance mm : +- 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

N22

Rated speed rpm : 1170

Rack travel in mm : 12.10
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 775
Aneroid pressure

hPa : 1500

Del. quantity
cm³/1000 strokes : 330.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : +- 4.0

control lever
position degree : 121.0
tolerance degree : +- 4.0

rack travel mm : 12.10
Rated speed rpm : 1095
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 78.0
tolerance degree : +- 4.0

control lever
position degree : 20.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : + 0.30

Rated speed rpm : 150

CRT mm min. : > 7.30

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 775
rack travel mm : 14.05
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 13.05
Tolerance mm : + 0.10

Rated speed rpm : 1050
rack travel mm : 13.10
Tolerance mm : + 0.10

Rated speed rpm : 200
rack travel mm : 10.80
Tolerance mm : + 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 775
Pressure hPa : 1500
rack travel mm : 14.05
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 775
rack travel mm : 8.60
Tolerance mm : + 0.20

Rated speed rpm : 775

Pressure hPa : 300
rack travel mm : 9.80
Tolerance mm : + 0.15

Pressure hPa : 610
rack travel mm : 11.50
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 319.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : + 15.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 192.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1095
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 402 946 017

Injection pump
Pump designation : PE6P120A720RS8039
EP type number : 0 412 926 026

Governor
Governor design. : RQV250...950PA1243
Governor no. : 0 421 814 162

Cust. part No. : 1374808

Customer-spec. information
Customer : SCANIA
Motor : DSC 11.79

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 298.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm	: 250
<hr/>	
Rack travel in mm :	5.40
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	21.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.02
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1008
guide sleeve	
travel mm	: 8.27
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 733
guide sleeve	
travel mm	: 6.04
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 470
guide sleeve	
travel mm	: 3.78
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1290
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1125
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Rack travel in mm :	10.90
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes :	298.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 51.0
tolerance degree	: + 4.0

control lever	
position degree	: 115.0
tolerance degree	: + 4.0

rack travel mm	: 10.90
Rated speed rpm	: 995
Tolerance 1/min	: + 5

rack travel mm	: 4.00
Rated speed rpm	: 1125
Tolerance 1/min	: + 15

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1200

LOW IDLE

control lever	
position degree	: 81.0
tolerance degree	: + 4.0

control lever	
position degree	: 17.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.40
Tolerance mm : + 0.10

Rated speed rpm : 150
CRT mm min. : > 8.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 11.90
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.90
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.20
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 10.30
Tolerance mm : + 0.15

Pressure hPa : 600
rack travel mm : 11.40
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 282.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 995
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.40
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

